UTAH UPLAND GAME ANNUAL REPORT 1997

UTAH DIVISION OF WILDLIFE RESOURCES
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UTAH

UPLAND GAME

Annual Report

1997

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Annual Performance Report for Federal Aid Project W-16-RD-1 Job A-4

Utah Department of Natural Resources

DIVISION OF WILDLIFE RESOURCES

An Equal Opportunity Employer

John Kimball
Director

"FINDING OUT HOW MANY THERE ARE LEFT IS THE LEAST OF THE PURPOSES OF GAME CENSUS.

MEASURING THE RESPONSE OF GAME POPULATIONS TO CHANGES - DELIBERATE OR ACCIDENTAL - IN THEIR ENVIRONMENT IS THE BIG PURPOSE.

CONTINUOUS CENSUS IS THE YARDSTICK OF SUCCESS OR FAILURE IN CONSERVATION."

ALDO LEOPOLD 1932

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ANNUAL PERFORMANCE REPORT

State: UTAH **Grant Number:** W-16-RD **Segment:** 1

Grant Title: Statewide Upland Game Management Surveys and Inventories

Grant Agreement Period: Oct. 1, 1996 thru Sept. 30, 1997

Abstract: This report identifies progress and accomplishments of Segment No. 1 objectives, 1996-97. Results of annual population surveys and inventories conducted during the segment W-65-R-44 and harvest surveys conducted under W-16-RD-1 along with summaries of long-term trends of population indices derived and harvest estimates are included in the Utah Upland Game Annual Report 1996. Data obtained in 1996 are compared to 1995 and long-term averages.

The Federal Aid Annual Performance Report for W-65-R-44 was included in the Utah Upland Game Annual Report 1996, rather that this Annual Performance Report because of the annual reporting scheme initiated under W-65-R and because of the way population surveys and inventories and harvest data are collected.

Annual population surveys and inventories are collected during one segment and harvest surveys are conducted during the subsequent segment. The Utah Upland Game Annual Report is an attempt to summarize population survey and inventory data and harvest estimates for the same calendar year.

This reporting scheme may seem awkward, especially when one looks a Utah Upland Game Annual Report and sees a copy of a Federal Aid Annual Performance Report included for a segment that ended before harvest survey data was actually collected.

Because this reporting scheme is somewhat confusing, but makes the most sense from a biological perspective to report population survey and inventory information for the same calendar year as harvest, it is hope that the above explanation clarifies any confusion. Further, it is recommended that the reporting scheme remain the same.

I. OBJECTIVES OF GRANT PROPOSAL:

1. To annually monitor and evaluate 16 upland game species harvest and populations in Utah using appropriate surveys and inventories--on-going objective.

2. To administer Utah's upland game programs and to manage 16 upland game species based on population data obtained through Objective 1--on-going objective.

3. In conjunction with the Utah State University Extension Fisheries and Wildlife Specialist, compile, develop and publish a handbook pertaining to field identification, basic biology and ecology and sexing and aging techniques for Utah upland game.

Progress Statement and Summary of Work Completed During The Segment For Each Objective:

1. To annually monitor and evaluate 16 upland game species harvest and populations in Utah using appropriate surveys and inventories.

Ongoing Objective. Annual inventory procedures for ring-necked pheasants included winter sex ratio counts and summer roadside counts. The winter sex ratio counts were conducted from December 15, 1996 through February 10, 1997, as snow cover conditions allowed. Indices derived include hen-cock ratios and pheasants observed per 100 hours. Annual summer roadside counts (three or more per route) were conducted from July 22-August 22 on permanently established routes. Indices derived include pheasants per mile, young per mile, young per hen, mean brood and percent of hens with young. Pheasant crowing territory counts were

selectively conducted by DWR's northern and central regions. Crowing territory counts are used by biologists to determine if habitat improvement projects are successful in increasing populations, and also as another index to local pheasant breeding populations.

Mourning dove breeding population trend was determined via the annual call count survey. This survey is part of a nationwide survey administered by the U. S. Fish and Wildlife Service. Call counts are conducted over 15 permanent, 20-mile routes. One count was made on each route between May 20-30, 1997.

Random brood counts were conducted on chukar and Hungarian partridge, forest grouse (ruffed and blue), sage grouse, sharp-tailed grouse, wild turkey and quail from June 15-August 22. Indices derived for each species include mean brood size, young per 100 adults and birds observed per 100 hours of effort.

Sage grouse strutting ground counts and sharp-tailed grouse dancing ground counts were conducted from March 15-May 15. Total cocks counted, average cocks per ground and percent change from 1996 for comparable grounds were determined on a county basis.

The Gambel's quail long period waterhole counts were completed in July and August. Limited valley quail random brood counts were made in several counties.

Cottontail rabbit roadside counts were conducted over pre-established routes between July 15 and August 22. Indices derived include rabbits per mile and young per 100 adults.

Harvest questionnaires were mailed to determine the harvest of upland game birds, cottontail rabbit, and snowshoe hare. A sample of eligible licensees from the current year's (1996) resident small game license file and 1996 combination license file was used. The modified computerized pull-apart mailer was again used to obtain harvest data. Separate questionnaires were mailed to all ptarmigan, band-tailed pigeon and wild turkey permittees. Indices derived include total hunters, hunter-days, total harvest and hunter success per day, plus success for each season.

The upland game questionnaires were processed by the Utah Division of Wildlife Resources Public Services Section. Wild turkey, band-tailed pigeon and ptarmigan questionnaires were analyzed separately by Utah Division of Wildlife Resources Wildlife Section personnel.

Upland game hunters were checked at checking stations, and random field checks were made during each hunting season. Indices derived include bag per hunter (per day), bag per 100 hours, average hours per hunter-day and average hours per bird bagged. Additional sex and age composition data were compiled for some species using wing samples collected at checking stations.

In August, 1996 a helicopter survey of chukar partridge populations was initiated. No Federal Aid funds were spent on the survey. One ten mile transect was flown in Utah's west desert to determine chukar population densities. Index derived was chukars per mile. The same transect was flown again in August, 1997, using Federal Aid funds under W-16-RD-1. This survey is flown only in Utah's west desert and nowhere else in Utah.

The project leader completed a review of the literature relative to survey methods used to inventory wild turkey populations. Procedures were compiled and data forms developed for a wild turkey winter flock count technique to be used in Utah. The winter flock count survey will be initiated throughout Utah beginning in the winter, 1997.

No new sage or sharp-tailed grouse leks were described or mapped during the segment.

The project leader worked closely with the waterfowl program coordinator and agency planner in scoping and deciding how best to collect Utah migratory bird hunter data for the federal Migratory Bird Harvest Information

Program (HIP) to come on line in 1998. Two options are being considered: 1) require hunters to telephone a 1-800 number to register for HIP and 2) require hunters to complete a HIP postcard survey at the time a small game or combination license is purchased. In addition, DWR's wildlife section chief presented a proposal to 5 Regional Advisory Councils, the public and the Utah Wildlife Board to increase small game and combination license fees by one dollar in an effort to generate revenue for implementing HIP. The license fee increase will be considered by Utah's Legislature in January, 1998. The fee increase, if authorized, will not go into effect until January, 1999.

The project leader completed the "Recommended Management Procedures" section of the 4-Corners Band-tailed Pigeon Management Plan. Other sections of the plan are being submitted by outside authors to the project leader who serves as the plan's editor. A draft plan should be available at the March (1998) Pacific Flyway Regulations Meeting.

2. **Ongoing Objective.** To administer Utah's upland game programs and to manage 16 upland game species based on population data obtained through Objective 1.

Data collected in objective 1 was used by DWR personnel to formulate harvest recommendations for 16 species of upland game in Utah. DWR personnel met in April, 1997 to formulate harvest recommendations for fall 1997 upland game seasons. DWR recommendations were presented at 5 Regional Advisory Councils and the public throughout the state in May. In June, recommendations were presented to the Utah Wildlife Board who made final decisions for recommendations to include in the 1997-98 Utah Upland Game Proclamation.

In September, October and November, 1996, the project leader also presented DWR recommendations for wild turkey conservation permits and limited entry turkey hunting unit permits to 5 Regional Advisory Councils, the public and the Utah Wildlife Board.

3. **Objective To Be Completed Over 2 Years.** In conjunction with the Utah State University Extension Fisheries and Wildlife Specialist, compile, develop and publish a handbook pertaining to field identification, basic biology and ecology and sexing and aging techniques for Utah upland game.

The project leader approached the Utah State University Extension Fisheries and Wildlife Specialist about the prospects of putting together the upland game handbook described above. A proposal depicting costs and time frame for the effort was received by the project leader from the Fisheries and Wildlife Specialist. The proposal is for compiling, developing and publishing the handbook as well as some follow-up research to determine how much the handbook will be used and how effective it will be at disseminating information.

No funds were requested to implement this objective in FY97. Subsequently, this objective will be completed in FY98 and FY99 instead of FY97 and FY98 as originally intended.

Location of Work Performed: Statewide.

Actual Cost:

INTRODUCTION

The objective of Utah's upland game management program is to provide recreational hunting opportunity for sportsmen within the limits of the annual harvestable surplus for each species. It is based on the knowledge that populations of upland game experience relatively high rates of annual turnover. High reproductive rates are naturally compensated for by high death rates, whether hunting is allowed or not. Annual surveys are conducted to measure the production, trend and harvest of each upland game population.

This is the twenty-seventh addition of this Annual Upland Game Report. It is an annual performance report of information compiled during inventory and harvest surveys conducted under Federal Aid Project W-16-RD. Information contained herein was collected and compiled by conservation officers, biologists, wildlife managers and the upland game management staff of the Utah Division of Wildlife Resources.

This report serves as a handbook of inventory and harvest data. It is designed primarily for the use of those concerned with the management of upland game. A separate section is devoted to each species of upland game in Utah. Data are presented primarily in tabular form with limited narrative comment. The first page of each section provides a brief summary of population status and trend as indicated by inventory and harvest data.

During 1997, a total of 54,125 Utah sportsmen spent 388,937 days afield in pursuit of various upland game species (Table 1). The harvest of upland game totaled 424,908 animals. The proportion of the total upland game hunters which pursued each species is shown in Table 2 and the percentage failing to bag at least one bird (from general mail questionnaire) of each species in Table 3.

The regulations for 1997 upland game hunting seasons are shown in Appendix D.

GENERAL HARVEST QUESTIONNAIRE

Harvest statistics were obtained from a random sample of licensed hunters by their response to a hunter harvest questionnaire. The combined upland game bird and rabbit-hare mail harvest questionnaire was again used.

A total of 13,689 upland game questionnaires, a 15.18 percent sample of Utah's potential resident upland game hunters, were mailed. Of the total, 578 (4.22%) questionnaires were undeliverable. Of the 15,111 questionnaires delivered, 4,338 (33.09 %) useable upland game questionnaires were returned. Of those, 1,734 purchased a license but did not hunt upland game. By dividing the total of 90,167 eligible licensees by the usable returns (4,338), a projection factor of 20.785384 is derived.

The 1997 hunter questionnaire sample size was greater than 10 percent of the total hunter population, so a follow-up questionnaire was not sent to those who failed to return the first one. A high rate of return is desirable in order to obtain an adequate sample of harvest estimates in counties where hunting pressure and harvest are limited. Extremely small samples from these counties tend to over-estimate the harvest and thus bias the results. Although harvest, number of hunters and days-afield may be over-estimated where small samples are obtained, harvest per hunter-day should be relatively precise.

Table 1. Summary of harvest statistics from the general mail questionnaire for 1997.

Species	Hunters Afield	Total Harvest	Hunter-Days Afield	Bag Per Hunter-Day	Bag Per Hunter For Season
Pheasant	37,622	78,693	140,135	0.56	2.09
Mourning Dove	22,594	208,331	84,638	2.46	9.30
Band-Tailed Pigeon	58	98	209	0.47	1.69
Chukar Partridge	9,665	23,840	34,711	0.69	2.47
Sage Grouse	4,178	4,489	10,101	0.44	1.07
Forest Grouse	10,206	31,198	39,304	0.79	3.06
Quail	3,637	9,436	11,016	0.86	2.59
Hungarian Partridge	2,328	5,071	6,443	0.79	2.18
Wild Turkey					
Merriam's	339	81	1,208	0.07	0.24
Rio Grande	229	127	920	0.14	0.55
Sharp-Tailed Grouse	--	--	--	--	--
White-Tailed Ptarmigan	18	4	37	0.11	0.22
Cottontail Rabbit	12,263	61,109	52,587	1.16	4.98
Snowshoe Hare	1,912	2,431	7,628	0.32	1.27
Total	--	424,908	388,937	--	--

Total hunters afield for all species of upland game = 54,125

Table 2. Number and percent of total upland game hunters afield who reported hunting each species during 1989-97.

	Number of Hunters									Percent of Total								
Species	1989	1990	1991	1992	1993	1994	1995	1996	1997	1989	1990	1991	1992	1993	1994	1995	1996	1997
Pheasant	50,382	47,025	42,813	41,640	39,640	36,705	38,391	41,854	37,622	75.20	72.50	69.14	71.27	66.52	74.12	69.60	72.92	69.51
Mourning Dove	21,696	22,700	22,632	18,021	19,725	20,743	20,896	23,180	22,594	16.30	17.30	36.55	30.85	33.10	41.89	37.88	40.38	41.74
Band-Tailed Pigeon*	23	9	15	18	8	13	59	37	58	0.03	0.01	0.02	0.03	0.01	0.03	0.11	0.06	0.11
Chukar	10,910	11,195	10,577	11,125	10,128	8,455	9,097	10,197	9,665	32.40	35.00	17.08	19.04	17.00	17.07	16.49	17.76	17.86
Sage Grouse	9,002	9,014	8,018	7,393	6,594	5,133	5,987	5,574	4,178	13.40	13.90	12.95	12.65	11.07	10.37	10.85	9.71	7.72
Forest Grouse	16,988	14,591	14,421	15,000	12,029	9,827	10,088	15,492	10,206	25.40	22.50	23.29	25.67	20.19	19.85	18.29	26.99	18.86
Quail	3,111	2,614	2,644	2,861	3,649	2,936	4,374	4,622	3,637	4.60	4.00	4.27	4.90	6.12	5.93	7.93	8.05	6.72
Hungarian Partridge	2,136	2,305	2,662	3,198	2,090	1,899	2,294	2,299	2,328	3.20	3.60	4.30	5.47	3.51	3.83	4.16	4.01	4.30
Wild Turkey*																		
Merriam's	477	531	532	484	466	285	296	320	339	0.70	0.80	0.86	0.83	0.78	0.58	0.54	0.56	0.63
Rio Grande			18	20	41	105	123	166	229			0.03	0.03	0.07	0.21	0.22	0.29	0.42
Sharp-Tailed Grouse*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
White-Tailed Ptarmigan	3	11	13	11	9	4	20	12	18	0.01	0.02	0.02	0.02	0.02	0.01	0.04	0.02	0.03
Cottontail Rabbit	22,878	23,079	21,137	20,509	17,578	12,709	13,840	14,470	12,263	34.20	35.60	34.13	35.10	29.50	25.67	25.09	25.21	22.66
Snowshoe Hare	4,895	4,095	3,427	3,732	2,755	1,565	1,983	2,276	1,912	7.30	6.30	5.53	6.39	4.62	3.16	3.60	3.97	3.53
Total Hunters**	67,017	64,868	61,922	58,423	59,590	49,518	55,159	57,401	54,125									

*Although wild turkey, sharp-tailed grouse, band-tailed pigeon and white-tailed ptarmigan harvest was determined by separate questionnaires, it is assumed that these hunters are derived from the same group of hunters who reported hunting other upland game bird species.

**This is not the total of the columns because many upland game hunters hunted more than one species.

Table 3. Percent of hunter trips resulting in failure to bag at least one bird, 1961-97.

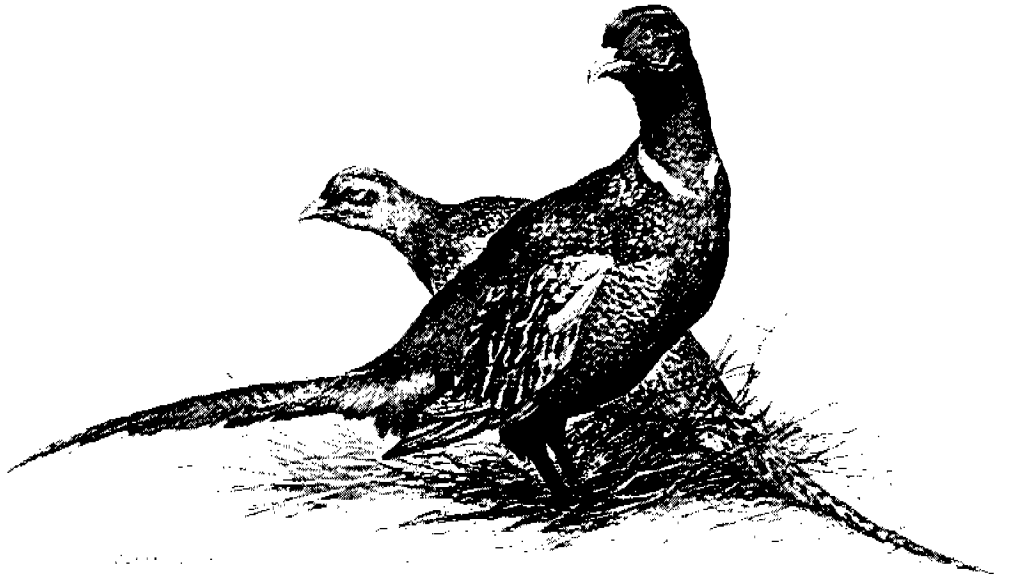
	Pheasant			Mourning Dove			Chukar			Sage Grouse			Forest Grouse			Quail			Hungarian Partridge		
Year	No Bag	Hunting Trips	%	No Bag	Hunting Trips	%	No Bag	Hunting Trips	%	No Bag	Hunting Trips	%	No Bag	Hunting Trips	%	No Bag	Hunting Trips	%	No Bag	Hunting Trips	%
1961	714	3,204	22	51	583	9	318	539	59	--	--	--	--	--	--	109	383	28	72	123	59
1962	500	2,685	19	39	456	9	147	362	41	--	--	--	--	--	--	62	201	31	36	108	33
1963	795	3,317	24	53	691	8	248	550	45	220	468	47	188	281	67	71	305	23	59	177	33
1964	911	3,115	29	60	681	9	266	568	47	45	154	29	144	229	63	94	316	30	62	150	41
1965	1,165	4,009	29	--	--	--	486	851	57	82	168	49	225	311	72	128	371	34	93	233	40
1966	1,242	4,297	29	136	1,067	13	523	881	48	54	131	41	133	331	40	106	315	34	63	219	29
1967	1,353	4,833	28	153	1,319	12	477	915	52	138	266	52	194	475	41	161	424	38	116	315	37
1968	1,422	5,223	27	236	1,312	18	495	1,095	45	185	449	41	177	665	27	171	457	39	132	347	28
1969	1,897	5,335	36	214	1,568	14	647	1,250	62	241	648	37	273	656	42	182	465	39	148	292	51
1970	1,546	4,686	33	193	1,274	15	466	962	48	257	603	43	209	666	31	126	314	40	101	210	48
1971	1,783	5,049	35	210	1,333	16	464	934	50	234	625	37	223	673	33	162	385	42	87	210	41
1972	1,743	4,617	38	270	1,421	19	457	827	55	259	593	44	271	794	34	154	339	45	120	224	54
1973	1,659	4,699	35	209	1,596	13	414	824	50	226	553	41	329	1,019	32	128	311	41	97	196	49
1974	2,347	5,323	44	323	1,951	17	511	955	54	292	668	44	388	1,259	31	157	333	47	108	227	48
1975	2,472	5,604	44	329	2,554	13	607	1,105	55	374	901	42	535	1,354	40	177	406	44	121	220	55
1976	1,739	4,294	40	273	1,709	16	408	781	52	259	783	33	371	1,131	33	105	266	39	87	184	47
1977	1,874	5,175	36	295	1,967	15	511	943	54	394	972	41	528	1,388	38	125	299	42	106	247	43
1978	1,507	4,858	31	279	1,986	14	343	882	39	301	853	35	419	1,419	30	103	306	34	85	246	35
1979	2,222	7,024	32	343	2,671	13	528	1,150	46	400	1,215	33	585	1,691	35	130	403	32	119	243	49
1980	1,684	5,867	29	258	2,145	12	458	1,008	45	392	944	42	501	1,283	39	87	254	34	75	206	36
1981	1,305	4,637	28	239	1,558	15	302	669	45	184	493	37	297	741	40	97	241	40	57	172	33
1982	1,768	6,725	26	363	2,338	16	406	824	49	269	620	43	325	919	35	128	292	44	89	176	51
1983	1,645	7,153	23	348	2,381	15	362	880	41	294	729	40	300	1,118	27	105	310	34	82	225	36
1984	1,245	4,643	27	274	1,711	16	287	548	52	202	435	46	270	640	42	84	189	44	51	76	67
1985	1,207	4,017	30	221	1,500	15	208	426	49	161	376	43	228	656	35	61	148	41	35	54	65
1986	1,211	3,615	33	224	1,476	15	237	537	44	139	368	38	221	667	33	58	125	46	36	61	59
1987	863	2,837	30	140	1,047	13	194	537	36	90	307	29	143	671	21	46	111	41	34	94	35
1988	1,372	3,953	35	244	1,525	16	308	77	40	187	557	34	224	1,184	19	63	171	37	73	154	47
1989	1,126	2,985	38	184	1,184	16	263	614	43	183	468	39	257	961	27	68	160	43	53	108	49
1990	988	2,745	36	161	1,234	13	282	632	45	162	483	34	233	810	39	54	132	41	46	117	39
1991	1,062	2,461	43	205	1,301	16	309	608	51	198	461	43	262	829	32	69	152	45	67	153	44
1992	905	2,760	33	156	1,150	14	298	701	43	169	432	39	208	969	21	68	168	40	67	186	36
1993	1,035	2,086	50	194	1,038	19	354	533	66	191	347	55	346	633	55	85	192	44	75	110	68
1994	889	2,088	43	230	1,180	19	278	481	58	148	292	51	243	559	43	64	167	38	78	108	72
1995	919	2,452	37	224	1,286	17	259	554	47	169	347	49	277	790	35	95	241	39	54	123	44
1996	742	2,259	33	173	1,164	15	225	526	43	119	255	47	187	775	24	81	215	38	38	103	37
1997	743	2,159	34	181	1,193	15	246	537	46	110	220	50	183	641	29	67	181	37	53	118	45
AVERAGES (1961-96)			33			14			49			39			35			39			46

The upland game questionnaire is designed to monitor statewide harvest trend from year to year. The more extensively a species is hunted, the more accurately the questionnaire measures the trend data. In an effort to improve the accuracy of indices for species which receive very little hunting pressure and harvest, and which have low densities and limited distribution, a unique questionnaire for that species is mailed to the permit holder. This method has been used for band-tailed pigeon, wild turkey, sharp-tailed grouse and white-tailed ptarmigan.

The annual harvest report is sometimes criticized for being inaccurate and without value. However, report users must recognize that the accuracy of the questionnaire is based on some basic assumptions. These assumptions are: (1) the returned useable sample is a completely random sample, (2) respondents recorded data correctly, i.e., they clearly understood the questionnaire, (3) respondents recorded data accurately, did not guess or lie, and (4) respondents correctly identified species hunted. If these assumptions are not met, projections of harvest by county may be over-estimated due to nonrespondent or memory biases. Extreme caution should be used in the interpretation of estimated harvest and hunters for specific species in specific counties. Rather, the long-term trend in these indices should be used in managing the populations.

Presently, the Upland Game Annual Report contains the best data available and therefore constitutes the basic facts of upland game management. Although this report has its limitations, the trend data is valuable in making professional judgments regarding upland game populations and harvest.

The annual report is used in wildlife planning. It can be used to establish relative importance among species and for developing new resources through transplants or habitat developments. It points out areas of needed research by indicating problems and possible causes. It documents population trends and it combines all this inventory information into one easily accessible publication. Thus it is used extensively by federal land management agencies in environmental impact statements and management plans. It will become increasingly more important in developing management plans and assessing impacts on wildlife habitat.



During the 1996-97 winter temperatures were above normal November-March. Precipitation was also above normal November-January.

Weather conditions during the nesting season (April-July) were wetter than normal in 1997. Statewide monthly average temperatures were above normal (May-June). Pheasants observed on roadside routes was below 1996, but hens appeared to have more young.

Harvest statistics compiled from the questionnaire indicated a slight decrease in the number of pheasants taken compared to 1996. Harvest decreased 6 percent from 1996, but remained 60 percent below the long-term average.

The pheasant hunt is the most popular game bird hunt in Utah. Despite its popularity among Utah sportsmen, Utah's pheasant population continues to decline steadily. Primary reasons for population declines are due to outright losses of critical habitat and degradation of remaining habitat.

Winter Sex Ratio Counts

Winter sex ratio counts provide an index as to how harvest of roosters only is affecting pheasant populations. In Utah, one rooster for every two, three or four hens is most common. One rooster for every ten hens is biologically acceptable in that one rooster can easily service ten hens in the wild. Based on this biological concept, hunting of rooster pheasants only does not appear to be affecting the populations.

Results of the survey for the winter of 1996-97 and long-term trends are shown in Tables 1 and 2 of this section. Statewide comparisons to the winter of 1994-95 and the 10-year (1986-95) average are as follows:

	Winter of 1996-97	Percent change from 1995-96	Percent change from Average
Total pheasants counted (roadside)	--	--	--
Hens per cock	--	--	--
Pheasants observed per 100 hours	--	--	--
Total hours effort (roadside)	--	--	--

As a result of extreme competition for biologist's time, winter sex ratio data was not collected in Utah in the winter of 1996-97.

Roadside Counts

A summary of summer roadside pheasant counts for 1997 is shown in Table 3. Long-term trends of pheasants per mile, young per mile, young per hen, percent of hens with young and mean brood size are found in Tables 4-8. Summer 1997 survey results compared to 1996 and the 10-year (1987-96) average follow:

	1997	Percent change from 1996	Percent change from Average
Total pheasants observed	314	-22	-69
Total miles driven	751.3	-13	-47
Pheasants per mile	0.41	-11	-38
Average brood size	4.49	-8	-8
Young per hen	3.75	+22	+3
Percent of hens with young	85	+25	+12

Total pheasants observed decreased 22 percent and pheasants per mile decreased 11 percent. Percent of hens with young increased 25 percent while average brood size decreased 8 percent.

Fewer total pheasants were observed on roadside counts in 1997 than in 1996. However, reproductive success per adult hen was up from the previous year. Observers may not have been able to see as many pheasants along roadside routes because of abundant vegetation from above normal precipitation April-June.

Harvest

Hunter Questionnaire

Results of the hunter questionnaire for 1997 are shown in Table 9. Long-term trends of pheasants bagged per hunter-day, percent of harvest and percent of pressure (hunter-days) by county are found in Tables 10-12, and total statewide harvest statistics in Table 13. A comparison of 1997 harvest statistics to 1996 and the previous 49-year average follow:

	1997	Percent change from 1996	Percent change from Average
Pheasant hunters	37,622	-10	-50
Pheasants harvested	78,693	-6	-60
Hunter-days afield1	140,135	-11	-33
Pheasants per hunter-day	0.56	+6	-37
Pheasants per hunter	2.09	+4	-18

Total hunters decreased 10 percent from 1996 and remained 50 percent below the long-term average. Total harvest decreased 6 percent from 1996. Hunter success (pheasants per hunter-day) increased 6 percent from 1996. Pheasants per hunter increased 4 percent and remains 18 percent below the long-term average.

Long-term trends (1948-97) of total hunters, hunter-days, harvest and hunter success are shown in Figures 1 and 2. Generally, the recent trend is toward less hunter-days with declines in total pheasants harvested and hunter success. We believe this is the result of the accumulated effects of loss of quantity and quality of habitat due to urbanization, flooding, modern agricultural practices, and habitat fragmentation resulting in increased predation.

Figure 1. Statewide trends of pheasant harvest statistics, 1948-97.

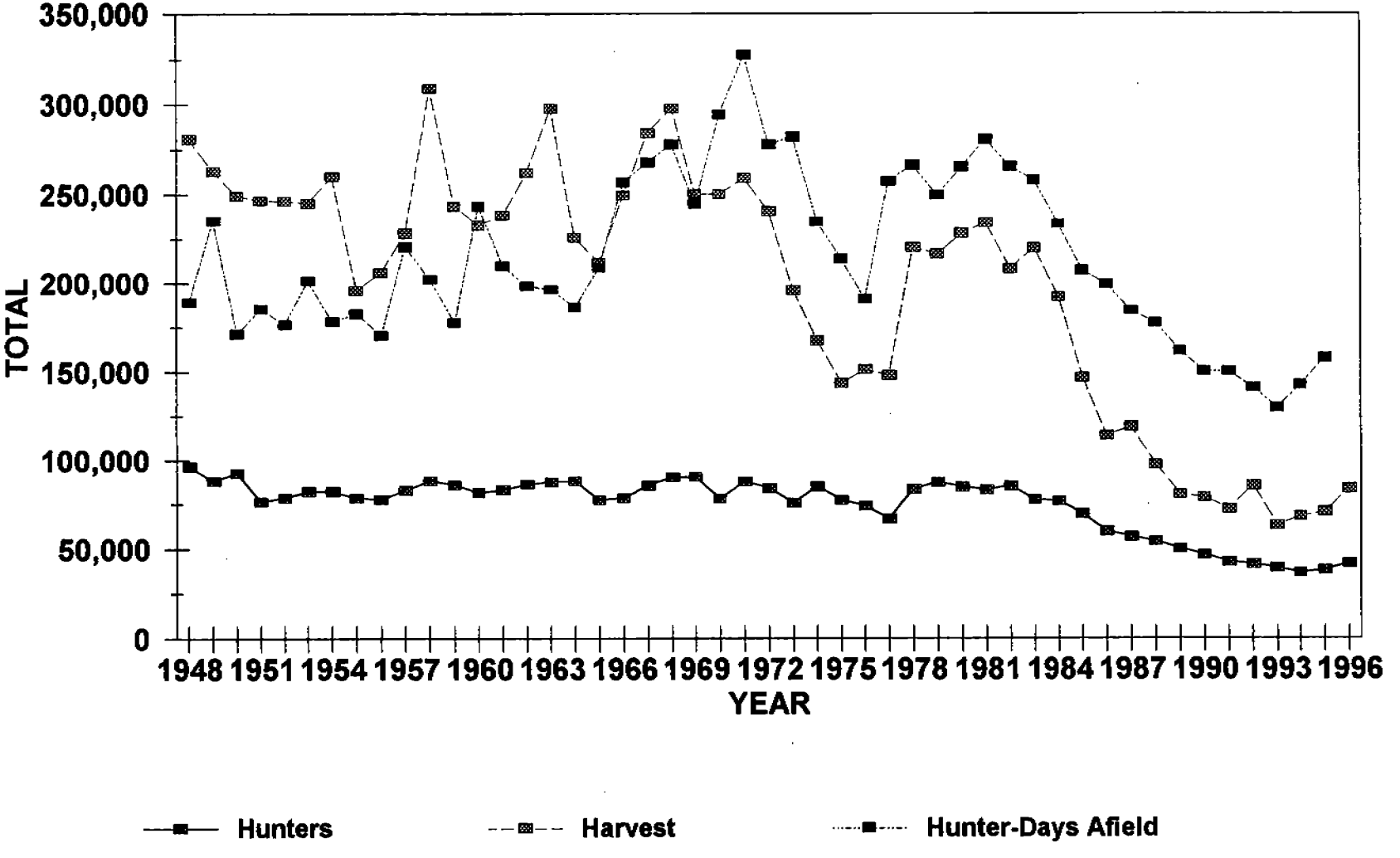
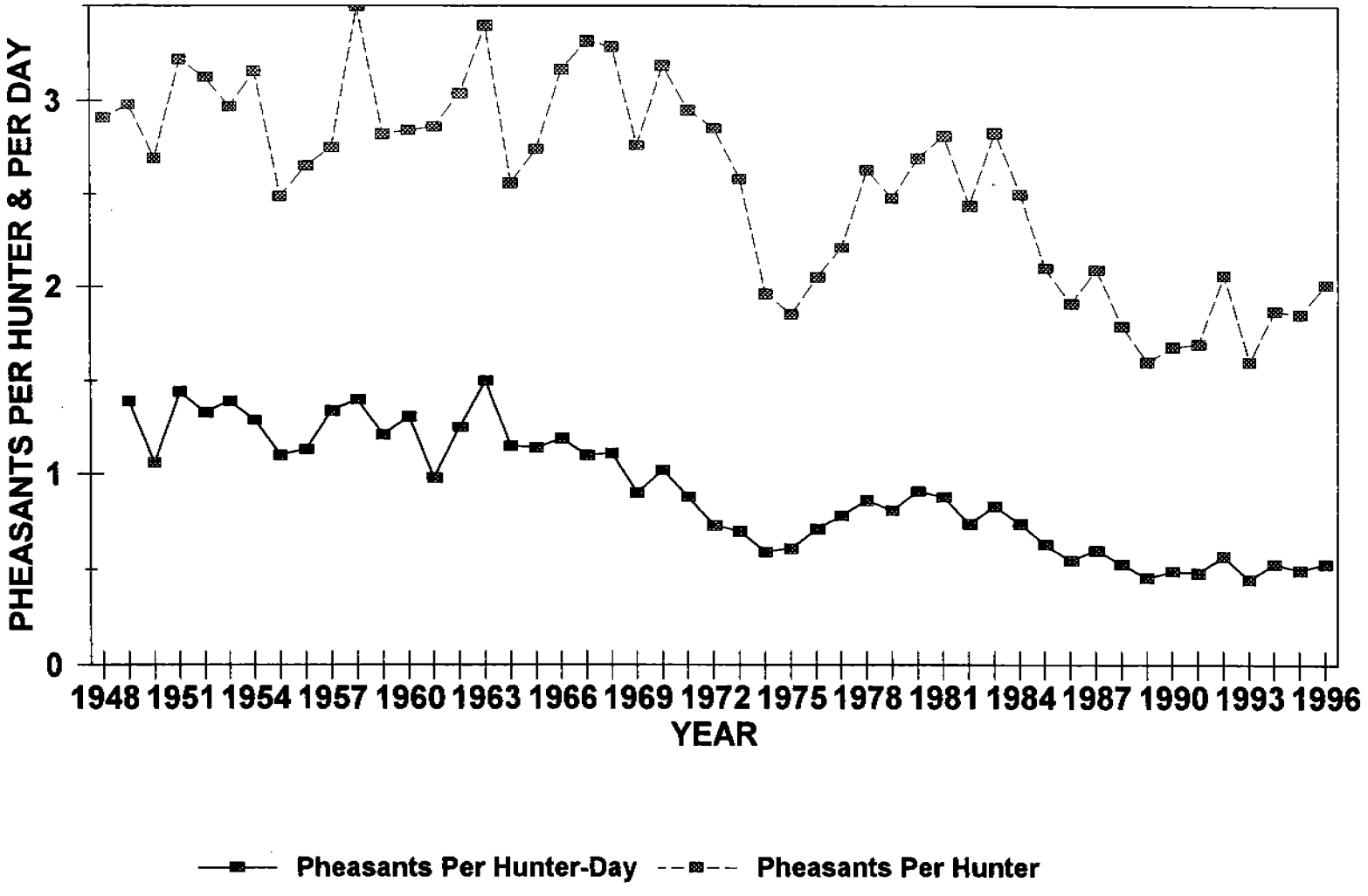


Figure 2. Statewide trends of pheasant hunter success rates, 1948-97.



Field Bag Checks

Field bag checks provide an index of opening day or weekend hunter harvest success rates.

A summary of pheasant field bag check data for 1997 is shown in Table 14. The hunter success trend determined via bag checks since 1991 is found in Table 15. A comparison of 1997 data, on a statewide basis, to 1996 and the 10-year (1987-96) average follow:

	1997	Percent change from 1996	Percent change from Average
Total hunters checked	140	+23	-87
Total hours hunted	301	+15	-90
Pheasants per hunter (complete hunts)	0.36	-5	+2
Pheasants bagged per 100 hours	17	+6	+8
Average hours per hunter-day (complete hunts)	2.15	-7	-13
Hours hunted per pheasant bagged (complete hunts)	5.09	+310	-24

In 1996, hunters spent 7 percent less time afield on an average day during the opening weekend. Hours hunted per pheasant bagged increased 310 percent. Field bag check data was collected only in Emery County.

Table 1. Summary of pheasant winter sex ratio counts, 1996-97.

Region and County	Roadside Observations					Flushing Observations					Effort Expended				Pheas. Obs./ 100 Hours of Road. Obs.
	Cocks	Hens	Total	Hens/ Cock	Cocks/ 100 Hen	Cocks	Hens	Total	Hens/ Cock	Cocks/ 100 Hen	Vehicle Miles	Hours of Effort Vehicle	Walk	Total	
Northern Region															
Box Elder	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Central Region															
Juab	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Southern Region	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Beaver	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Northeastern Region	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Southeastern Region	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STATE TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 2. Trend of pheasant winter sex ratio counts, 1991-97.

Region and County	1991-92 Hens/ Cock	1991-92 Birds/ 100 Hr	1992-93 Hens/ Cock	1992-93 Birds/ 100 Hr	1993-94 Hens/ Cock	1993-94 Birds/ 100 Hr	1994-95 Hens/ Cock	1994-95 Birds/ 100 Hr	1995-96 Hens/ Cock	1995-96 Birds/ 100 Hr	1996-97 Hens/ Cock	1996-97 Birds/ 100 Hr	Average 1991-1996	
Northern Region														
Box Elder	--	--	--	--	--	--	--	--	--	--	--	--		
Cache	--	--	--	--	--	--	--	--	--	--	--	--		
Davis	1.38	317	--	--	--	--	--	--	--	--	--	--		
Morgan	--	--	--	--	--	--	--	--	--	--	--	--		
Rich	--	--	--	--	--	--	--	--	--	--	--	--		
Summit	--	--	--	--	--	--	--	--	--	--	--	--		
Weber	4.52	1,055	2.33	333	--	--	--	--	--	--	--	--		
REGIONAL TOTALS	3.66	794	2.33	333	--	--	--	--	--	--	--	--	2.99	564
Central Region									--	--	--	--		
Juab	--	--	--	--	--	--	--	--	--	--	--	--		
Salt Lake	0.25	500	1.40	686	--	--	--	--	--	--	--	--		
Sanpete	4.82	640	--	--	0.50	19	--	--	--	--	--	--		
Tooele	2.50	2,100	3.30	--	--	--	--	--	--	--	--	--		
Utah	1.99	2,329	1.82	--	3.91	974	2.33	737	--	--	--	--		
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--		
REGIONAL TOTALS	2.27	1,706	2.24	18,857	3.81	641	2.33	737	--	--	--	--	2.66	5,485
Southern Region									--	--	--	--		
Beaver	--	--	--	--	--	--	--	--	--	--	--	--		
Iron	--	--	--	--	--	--	--	--	--	--	--	--		
Kane	--	--	--	--	--	--	--	--	--	--	--	--		
Millard	--	--	2.87	800	--	--	--	--	--	--	--	--		
Piute	--	--	--	--	--	--	--	--	--	--	--	--		
Sevier	--	--	--	--	--	--	--	--	--	--	--	--		
Washington	--	--	--	--	--	--	--	--	--	--	--	--		
Wayne	--	--	--	--	--	--	--	--	--	--	--	--		
REGIONAL TOTALS	--	--	2.87	800	--	--	--	--	--	--	--	--	2.87	800
Northeastern Region									--	--	--	--		
Daggett	--	--	--	--	--	--	--	--	--	--	--	--		
Duchesne	1.21	525	0.89	1,700	--	--	--	--	--	--	--	--		
Uintah	1.41	1,382	2.00	1,500	--	--	--	--	--	--	--	--		
REGIONAL TOTALS	1.37	1,021	1.29	1,600	--	--	--	--	--	--	--	--	1.33	1,311
Southeastern Region									--	--	--	--		
Carbon	--	--	--	--	--	--	--	--	--	--	--	--		
Emery	--	--	--	--	--	--	--	--	--	--	--	--		
Grand	--	--	--	--	--	--	--	--	--	--	--	--		
San Juan	--	--	--	--	--	--	--	--	--	--	--	--		
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STATE TOTALS	2.15	1,293	2.28	1,864	3.81	641	2.33	737	--	--	--	--	2.64	907

Table 3. Pheasant summer inventory, 1997.

Region and County	No. Routes	Total Miles	Distinct Broods Total	Distinct Broods Hens	Distinct Broods Young	Mixed Obser. Hens	Mixed Obser. Young	Adults w/o Young Cocks	Adults w/o Young Hens	Total Hens	Total Young	Total Cocks	Total Pheas.	Pheas./ Mile	Young/ Mile	Mean Brood	Young/ Ad. Hen	%Hens w/Young
Northern Region																		
Box Elder	2	60	0	0	0	2	7	1	0	2	7	1	10	0.17	0.12	--	3.50	100
Cache	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	2	60	0	0	0	2	7	1	0	2	7	1	10	0.17	0.12	--	3.50	100
Central Region																		
Juab	1	35.5	0	0	0	0	2	0	0	0	2	0	2	0.06	0.06	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	3	167.7	17	17	73	0	0	4	0	17	73	4	94	0.56	0.44	4.29	4.29	100
Tooele	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Utah	3	216.6	23	23	108	6	23	10	6	35	131	10	176	0.81	0.60	4.70	3.74	83
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	7	419.8	40	40	181	6	25	14	6	52	206	14	272	0.65	0.49	4.53	3.96	88
Southern Region																		
Beaver	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Northeastern Region																		
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	2	164.5	3	2	12	0	0	7	1	3	12	7	22	0.13	0.07	4.00	4.00	67
Uintah	2	115	0	0	0	2	4	2	2	4	4	2	10	0.09	0.03	--	1.00	50
REGIONAL TOTALS	4	279.5	3	2	12	2	4	9	3	7	16	9	32	0.11	0.06	4.00	2.29	57
Southeastern Region																		
Carbon	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STATE TOTALS	13	759.3	43	42	193	10	36	24	9	61	229	24	314	0.41	0.30	4.49	3.75	85

Table 4. Trend of pheasants observed per mile during summer roadside pheasant counts, 1987-97.

Region and County	Year											Average
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1987-96
Northern Region												
Box Elder	0.81	0.63	0.19	0.32	0.21	0.56	0.34	0.72	0.23	0.31	0.17	
Cache	0.29	0.13	0.23	0.09	0.41	0.59	1.09	--	--	--	--	
Davis	1.3	0.7	0.41	0.48	0.39	0.15	0.01	--	--	--	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	0.52	1.26	0.48	1.05	--	--	--	--	--	
REGIONAL TOTALS	0.71	0.4	0.3	0.42	0.35	0.58	0.24	0.72	0.23	0.31	0.17	0.42
Central Region												
Juab	--	0.38	0.5	0.14	--	0.77	0.16	0.14	0.15	0.00	0.06	
Salt Lake	1.08	--	--	1.26	1.24	--	0.31	--	--	--	--	
Sanpete	1.63	1.18	1.7	1.23	0.85	0.67	0.35	0.53	0.38	0.72	0.56	
Tooele	0.08	0.15	--	0.17	0.55	0.14	--	0.27	0.00	0.07	--	
Utah	2.35	2	1	1.45	0.58	2.56	0.93	1.58	0.96	0.98	0.81	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	1.79	1.42	1.5	1.09	0.73	1.79	0.48	0.92	0.61	0.70	0.65	1.10
Southern Region												
Beaver	0.08	0.17	--	--	--	--	--	--	--	--	--	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	--	--	--	--	--	--	--	--	--	--	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	0.67	0.67	--	0.34	0.38	--	1.38	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	1.95	1.3	--	--	--	--	--	--	--	--	--	
Washington	0.47	0.22	0.06	--	--	--	--	--	--	--	--	
Wayne	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	1.44	0.78	0.06	0.34	0.38	--	1.38	--	--	--	--	0.50
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	0.38	0.58	0.39	0.93	0.59	0.22	0.14	0.22	0.23	0.17	0.13	
Uintah	0.55	0.45	0.24	0.52	0.29	0.18	0.18	0.36	0.34	0.02	0.09	
REGIONAL TOTALS	0.45	0.54	0.32	0.71	0.51	0.17	0.16	0.28	0.28	0.11	0.11	0.35
Southeastern Region												
Carbon	--	--	--	--	--	--	--	--	--	--	--	
Emery	0.72	1.06	1	0.61	0.28	0.56	0.39	--	--	--	--	
Grand	--	--	--	--	--	--	--	--	--	--	--	
San Juan	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	0.72	1.06	1	0.61	0.28	0.56	0.39	--	--	--	--	0.66
STATE TOTALS	1.1	0.81	0.71	0.71	0.51	0.75	0.40	0.68	0.44	0.46	0.41	0.66

Table 5. Trend of young observed per mile during summer roadside pheasant counts, 1987-97.

Region and County	Year											Average
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1987-96
Northern Region												
Box Elder	0.62	0.39	0.16	0.27	0.14	0.41	0.28	0.52	0.15	0.22	0.12	
Cache	0.25	0.09	0.14	0.06	0.23	0.42	0.94	--	--	--	--	
Davis	0.98	0.52	0.22	0.31	0.26	0.04	--	--	--	--	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	0.39	0.97	0.30	0.77	--	--	--	--	--	
REGIONAL TOTALS	0.55	0.28	0.20	0.32	0.21	0.41	0.19	0.52	0.15	0.22	0.12	0.31
Central Region												
Juab	--	0.17	0.08	0.09	--	0.62	0.08	0.08	0.12	0.00	0.06	
Salt Lake	0.79	--	--	0.97	0.93	--	0.24	--	--	--	--	
Sanpete	1.23	0.96	1.30	0.91	0.67	0.53	0.28	0.34	0.32	0.50	0.44	
Tooele	0.07	0.07	--	0.10	0.53	0.11	--	0.10	--	0.03	--	
Utah	1.81	1.57	1.00	1.15	0.49	1.97	0.69	1.12	0.72	0.71	0.60	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	1.37	1.11	1.10	0.87	0.59	1.38	0.37	0.63	0.47	0.50	0.49	0.84
Southern Region												
Beaver	0.07	0.10	--	--	--	--	--	--	--	--	--	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	0.00	--	--	--	--	--	--	--	--	--	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	1.55	0.50	--	0.31	0.28	--	1.18	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	1.54	0.95	--	--	--	--	--	--	--	--	--	
Washington	0.22	0.16	--	--	--	--	--	--	--	--	--	
Wayne	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	1.12	0.57	--	0.31	0.28	--	1.18	--	--	--	--	0.69
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	0.25	0.32	0.20	0.58	0.42	0.08	0.02	0.10	0.15	0.11	0.07	
Uintah	0.40	0.30	0.14	0.35	0.21	0.10	0.13	0.25	0.25	0.00	0.03	
REGIONAL TOTALS	0.31	0.32	0.17	0.46	0.37	0.08	0.07	0.17	0.20	0.07	0.06	0.22
Southeastern Region												
Carbon	--	--	--	--	--	--	--	--	--	--	--	
Emery	0.59	0.86	1.00	0.43	0.22	0.43	0.29	--	--	--	--	
Grand	--	--	--	--	--	--	--	--	--	--	--	
San Juan	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	0.59	0.86	1.00	0.43	0.22	0.43	0.29	--	--	--	--	0.55
STATE TOTALS	0.79	0.63	0.62	0.48	0.38	0.55	0.30	0.46	0.33	0.32	0.30	0.49

Table 6. Trend of young per adult hen ratios found during summer roadside pheasant counts, 1987-97.

Region and County	Year											Average
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1987-96
Northern Region												
Box Elder	4.42	2.21	7.00	5.86	1.92	3.04	4.67	3.32	3.29	3.44	3.50	
Cache	7.17	2.33	2.60	5.50	1.57	3.38	6.00	--	--	--	--	
Davis	3.30	6.86	1.30	2.41	3.00	1.00	--	--	--	--	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	4.80	5.50	2.60	3.35	--	--	--	--	--	
REGIONAL TOTALS	4.18	3.44	2.90	3.86	2.02	3.05	4.80	3.32	3.29	3.44	3.50	3.43
Central Region												
Juab	--	2.00	0.23	4.00	--	8.00	1.00	1.50	4.00	0.00	--	
Salt Lake	3.88	--	--	3.80	4.22	--	10.00	--	--	--	--	
Sanpete	3.25	4.48	3.20	3.34	4.17	4.60	4.77	2.15	9.00	3.00	4.29	
Tooele	4.00	2.00	--	2.00	--	3.00	--	0.60	--	2.00	--	
Utah	4.18	3.94	3.80	4.31	6.41	4.22	3.76	2.95	3.85	3.08	3.74	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	3.89	4.00	4.70	3.92	5.27	4.28	3.92	2.53	4.51	3.04	3.96	4.01
Southern Region												
Beaver	6.00	1.80	--	--	--	--	--	--	--	--	--	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	--	--	--	--	--	--	--	--	--	--	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	3.99	3.64	--	15.00	4.86	--	7.23	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	5.14	3.77	--	--	--	--	--	--	--	--	--	
Washington	1.11	3.50	--	--	--	--	--	--	--	--	--	
Wayne	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	4.32	3.61	--	15.00	4.86	--	7.23	--	--	--	--	7.00
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	3.40	2.36	1.68	2.60	3.81	0.86	1.00	3.40	3.67	3.60	4.00	
Uintah	3.65	3.67	2.33	3.30	3.33	1.70	3.33	6.60	6.00	--	1.00	
REGIONAL TOTALS	3.52	2.64	2.01	2.82	3.73	1.02	2.40	5.00	4.83	3.00	2.29	3.10
Southeastern Region												
Carbon	--	--	--	--	--	--	--	--	--	--	--	
Emery	6.63	6.42	3.60	3.50	5.00	6.50	3.71	--	--	--	--	
Grand	--	--	--	--	--	--	--	--	--	--	--	
San Juan	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	6.63	6.42	3.60	3.50	5.00	6.50	3.71	--	--	--	--	5.05
STATE TOTALS	4.08	3.68	2.95	3.70	3.81	3.40	4.31	2.84	4.44	3.08	3.75	3.63

Table 7. Trend of the percent of hens observed with broods during summer roadside pheasant counts, 1987-97.

Region and County	Year											Average
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1987-96
Northern Region												
Box Elder	75	64	100	100	83	74	89	68	57	89	100	
Cache	83	50	56	67	70	38	100	--	--	--	--	
Davis	89	86	47	50	50	0	--	--	--	--	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	100	80	60	85	--	--	--	--	--	
REGIONAL TOTALS	82	67	76	74	69	67	90	68	57	89	100	74
Central Region												
Juab	--	50	6	100	--	--	100	50	100	0	--	
Salt Lake	88	--	--	67	89	--	100	--	--	--	--	
Sanpete	85	88	81	78	83	90	85	59	100	71	100	
Tooele	100	50	--	--	--	--	--	40	--	100	--	
Utah	94	81	66	89	76	86	94	75	78	63	83	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	91	82	51	81	80	87	92	68	81	66	88	78
Southern Region												
Beaver	100	40	--	--	--	--	--	--	--	--	--	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	--	--	--	--	--	--	--	--	--	--	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	86	86	--	100	100	--	85	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	86	69	--	--	--	--	--	--	--	--	--	
Washington	22	50	--	--	--	--	--	--	--	--	--	
Wayne	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	82	74	--	100	100	--	85	--	--	--	--	88
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	96	39	61	60	84	--	50	60	33	80	67	
Uintah	91	75	56	79	100	--	67	100	100	0	50	
REGIONAL TOTALS	94	46	59	67	86	--	60	80	67	67	57	70
Southeastern Region												
Carbon	--	--	--	--	--	--	--	--	--	--	--	
Emery	100	100	64	64	100	83	57	--	--	--	--	
Grand	--	--	--	--	--	--	--	--	--	--	--	
San Juan	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	100	100	64	64	100	83	57	--	--	--	--	81
STATE TOTALS	87	72	64	76	79	85	85	69	76	68	85	76

Table 8. Trend of average brood size for pheasants, 1987-97.

Region and County	Year											Average
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1987-96
Northern Region												
Box Elder	6.00	4.80	8.00	5.40	3.20	4.00	5.40	6.78	6.67	4.00	--	
Cache	4.80	4.00	4.00	4.50	5.20	4.67	6.00	--	--	--	--	
Davis	4.40	6.60	4.50	4.20	6.00	--	--	--	--	--	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	5.50	4.30	--	4.33	3.94	--	--	--	--	--	
REGIONAL TOTALS	5.10	5.40	5.40	5.00	4.53	4.03	5.50	6.78	6.67	4.00	--	5.38
Central Region												
Juab	--	4.00	4.00	4.00	--	8.00	2.00	3.00	4.00	0.00	--	
Salt Lake	3.80	3.80	--	5.00	4.25	--	7.00	--	--	--	--	
Sanpete	4.80	5.80	4.20	4.40	5.00	4.00	5.89	4.18	5.83	4.62	4.29	
Tooele	4.00	4.00	--	3.00	--	--	--	1.00	--	2.00	--	
Utah	4.90	4.80	5.10	5.00	5.13	5.44	3.78	4.13	4.89	4.72	4.70	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	4.80	5.00	4.40	4.70	4.92	5.35	4.32	4.06	5.03	4.59	4.53	4.72
Southern Region												
Beaver	6.00	4.50	--	--	--	--	--	--	--	--	--	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	--	--	--	--	--	--	--	--	--	--	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	5.30	4.90	--	3.80	5.40	--	--	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	5.80	5.60	--	--	--	--	--	--	--	--	--	
Washington	5.00	7.00	--	--	--	--	--	--	--	--	--	
Wayne	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	5.60	5.30	--	3.80	5.40	--	--	--	--	--	--	5.03
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	3.90	5.30	2.70	5.30	4.50	0.68	2.00	5.67	--	3.00	4.00	
Uintah	4.40	5.30	4.20	4.90	3.33	3.00	4.75	6.60	6.00	--	--	
REGIONAL TOTALS	4.10	5.30	3.50	5.10	4.18	0.80	3.83	6.25	6.00	3.00	4.00	4.21
Southeastern Region												
Carbon	--	--	--	--	--	--	--	--	--	--	--	
Emery	5.00	7.10	5.70	5.60	4.50	7.00	6.50	--	--	--	--	
Grand	--	--	--	--	--	--	--	--	--	--	--	
San Juan	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	5.00	7.10	5.70	5.60	4.50	7.00	6.50	--	--	--	--	5.91
STATE TOTALS	5.10	5.30	4.60	4.80	4.61	3.93	5.81	4.68	5.24	4.33	4.49	4.84

Table 9. Summary of pheasant hunter success and distribution of harvest and hunting pressure by region and county, 1997.

REGION AND COUNTY	SAMPLE SIZE*	HUNTER-DAYS AFIELD	BIRDS BAGGED	BIRDS PER HUNTER-DAY	% OF PRESSURE	% OF HARVEST
NORTHERN REGION						
BOX ELDER	298	20,535	13,448	0.65	14.65	17.09
CACHE	259	19,184	11,515	0.60	13.69	14.63
DAVIS	141	10,579	4,655	0.44	7.55	5.92
MORGAN	4	83	62	0.75	0.06	0.08
RICH	4	124	62	0.50	0.09	0.08
SUMMIT	3	166	20	0.13	0.12	0.03
WEBER	202	13,655	3,595	0.26	9.74	4.57
REGIONAL TOTALS	911	64,330	33,360	0.52	45.91	42.39
CENTRAL REGION						
JUAB	82	4,863	2,826	0.58	3.47	3.59
SALT LAKE	39	2,036	997	0.49	1.45	1.27
SANPETE	108	6,401	3,408	0.53	4.57	4.33
TOOELE	61	4,593	1,912	0.42	3.28	2.43
UTAH	404	21,970	14,237	0.65	15.68	18.09
WASATCH	5	187	145	0.78	0.13	0.18
REGIONAL TOTALS	699	40,053	23,529	0.59	28.58	29.90
SOUTHERN REGION						
BEAVER	9	436	145	0.33	0.31	0.18
GARFIELD	1	20	20	1.00	0.01	0.03
IRON	11	436	62	0.14	0.31	0.08
KANE	0	0	0	0.00	0.00	0.00
MILLARD	146	9,020	4,531	0.50	6.44	5.76
PIUTE	3	103	1,454	14.00	0.07	1.85
SEVIER	90	6,401	3,679	0.57	4.57	4.68
WASHINGTON	22	1,579	706	0.45	1.13	0.90
WAYNE	5	249	20	0.08	0.18	0.03
REGIONAL TOTALS	287	18,249	10,621	0.58	13.02	13.50
NORTHEASTERN REGION						
DAGGETT	1	83	124	1.50	0.06	0.16
DUCHESNE	79	5,092	3,325	0.65	3.63	4.23
UINTAH	83	6,048	4,406	0.73	4.32	5.60
REGIONAL TOTALS	163	11,224	7,856	0.70	8.01	9.98
SOUTHEASTERN REGION						
CARBON	33	2,348	1,163	0.50	1.68	1.48
EMERY	57	3,429	1,849	0.54	2.45	2.35
GRAND	3	270	166	0.62	0.19	0.21
SAN JUAN	1	20	41	2.00	0.01	0.05
REGIONAL TOTALS	94	6,069	3,221	0.53	4.33	4.09
Unknown	5	207	103	0.50	0.15	0.13
STATE TOTALS	2,159	140,135	78,693	0.56	100.00	100.00

*Total hunter trips from questionnaire returns.

Table 10. Summary of pheasants bagged per hunter-day by region and county, 1989-96.

Region and County	Year							
	1989	1990	1991	1992	1993	1994	1995	1996
Northern Region								
Box Elder	0.40	0.58	0.53	0.64	0.44	0.55	0.57	0.67
Cache	0.32	0.46	0.51	0.59	0.48	0.60	0.54	0.67
Davis	0.28	0.26	0.34	0.29	0.21	0.34	0.24	0.24
Morgan	0.40	(0.67)	(0.15)	(0.00)	0.00	1.06	0.14	0.50
Rich	(0.17)	0.00	0.00	(0.00)	0.33	1.00	0.50	0.00
Summit	(0.67)	0.00	(0.05)	(0.00)	0.00	0.00	0.75	0.00
Weber	0.29	0.34	0.37	0.39	0.20	0.29	0.45	0.32
REGIONAL TOTALS	**0.32**	**0.42**	**0.44**	**0.50**	**0.33**	**0.46**	**0.47**	**0.50**
Central Region								
Juab	0.38	0.39	0.57	0.66	0.40	0.49	0.71	0.64
Salt Lake	0.32	0.51	0.32	0.39	0.53	0.55	0.30	0.65
Sanpete	0.65	0.57	0.59	0.60	0.44	0.59	0.34	0.55
Tooele	0.29	0.36	0.44	0.24	0.15	0.33	0.50	0.31
Utah	0.58	0.53	0.55	0.65	0.48	0.58	0.55	0.52
Wasatch	(1.33)	0.00	0.68	(0.30)	0.50	2.00	1.50	0.53
REGIONAL TOTALS	**0.54**	**0.51**	**0.53**	**0.59**	**0.45**	**0.56**	**0.53**	**0.52**
Southern Region								
Beaver	0.39	0.68	0.55	0.38	0.28	0.39	0.24	0.18
Garfield	0.71	0.00	0.00	(0.00)	0.00	1.00	0.50	0.00
Iron	0.34	0.34	0.29	0.26	0.29	0.44	0.25	0.25
Kane	0.00	0.00	0.00	(0.00)	0.00	0.00	0.00	2.00
Millard	0.66	0.74	0.59	0.76	0.58	0.62	0.58	0.56
Piute	1.12	(0.50)	(0.10)	(1.00)	0.25	0.63	0.50	0.91
Sevier	0.45	0.42	0.36	0.49	0.32	0.41	0.27	0.39
Washington	0.33	0.38	0.21	0.61	0.93	0.56	0.45	0.24
Wayne	(0.46)	0.00	(0.50)	(1.14)	0.29	0.57	0.50	0.20
REGIONAL TOTALS	**0.52**	**0.56**	**0.45**	**0.62**	**0.47**	**0.52**	**0.42**	**0.45**
Northeastern Region								
Daggett	0.00	0.00	0.00	(0.00)	1.20	0.00	0.00	0.18
Duchesne	0.62	0.78	0.66	0.79	0.77	0.85	0.90	0.86
Uintah	0.42	0.57	0.47	0.68	0.44	0.80	0.49	0.65
REGIONAL TOTALS	**0.53**	**0.69**	**0.58**	**0.74**	**0.67**	**0.83**	**0.74**	**0.76**
Southeastern Region								
Carbon	0.39	0.30	0.22	0.48	0.57	0.30	0.35	0.59
Emery	0.44	0.44	0.50	0.53	0.52	0.62	0.41	0.60
Grand	(0.33)	(0.33)	(0.48)	(1.40)	0.57	0.61	0.00	0.50
San Juan	(2.00)	0.00	(0.36)	(1.00)	0.00	0.00	0.00	0.64
REGIONAL TOTALS	**0.43**	**0.39**	**0.39**	**0.53**	**0.53**	**0.00**	**0.38**	**0.59**
Unknown Counties	0.60	0.00	0.00	0.00	1.45	0.53	0.30	6.40
STATE TOTALS	0.46	0.49	0.48	0.57	0.45	0.67	0.50	0.5

( )Data may be biased because small sample size inflated county harvest beyond reasonable estimate for known pheasant populations.

Table 11. Percentage distribution of pheasant harvest by region and county, 1990-97.

Region and County	Year							
	1990	1991	1992	1993	1994	1995	1996	1997
Northern Region								
Box Elder	7.65	12.70	11.67	12.59	9.93	12.03	14.74	14.21
Cache	4.01	7.53	9.68	9.76	8.04	11.72	11.55	10.75
Davis	4.80	3.96	4.38	2.92	2.82	3.89	3.30	7.39
Morgan	0.15	(0.21)	(0.07)	(0.00)	0.00	0.44	0.03	0.12
Rich	(0.03)	0.00	0.00	(0.00)	0.06	0.05	0.05	0.03
Summit	(0.05)	0.00	0.02	(0.00)	0.00	0.00	0.08	0.00
Weber	27.40	8.39	(8.03)	6.59	5.13	5.55	9.91	11.31
REGIONAL TOTALS	24.09	32.79	33.85	31.86	25.98	33.67	39.67	43.80
Central Region								
Juab	1.69	2.09	2.47	3.21	2.16	3.05	3.74	2.34
Salt Lake	2.67	4.30	2.23	2.51	2.76	2.00	1.53	1.74
Sanpete	10.76	7.92	5.94	5.70	4.32	5.81	2.32	4.17
Tooele	2.03	2.19	1.72	1.24	0.93	1.10	1.67	2.71
Utah	27.35	23.44	27.43	28.75	24.51	25.18	25.42	17.39
Wasatch	(0.51)	0.00	0.50	(0.06)	0.06	0.05	0.74	0.28
REGIONAL TOTALS	45.02	39.94	40.30	41.47	34.74	37.18	35.41	28.62
Southern Region								
Beaver	0.36	0.73	0.69	0.31	0.48	0.74	0.41	0.25
Garfield	0.13	0.00	0.00	(0.00)	0.00	0.03	0.05	0.10
Iron	0.62	0.50	0.55	0.21	0.39	0.72	0.38	0.65
Kane	0.00	0.00	0.00	(0.00)	0.00	0.00	0.00	0.01
Millard	7.99	8.71	7.62	8.04	7.71	7.72	6.03	5.96
Piute	0.74	(0.08)	(0.02)	(0.19)	0.06	0.13	0.05	0.16
Sevier	5.75	3.94	3.62	3.83	4.53	3.79	2.10	4.42
Washington	1.05	0.78	0.43	0.46	2.52	1.64	1.09	1.15
Wayne	(0.15)	0.00	(0.02)	(0.17)	0.06	0.20	0.11	0.07
REGIONAL TOTALS	16.80	14.58	12.80	12.19	15.75	14.99	10.24	12.78
Northeastern Region								
Daggett	0.00	0.00	0.00	(0.00)	0.18	0.00	0.00	0.16
Duchesne	5.86	5.71	5.73	5.97	8.49	4.40	8.11	4.33
Uintah	3.16	3.15	3.07	3.58	2.40	3.38	3.00	3.43
REGIONAL TOTALS	9.01	8.86	8.79	9.55	11.07	7.78	11.11	7.91
Southeastern Region								
Carbon	1.90	0.76	0.84	1.28	2.19	1.00	1.06	1.94
Emery	2.88	2.76	2.92	2.44	5.10	4.96	2.13	3.80
Grand	(0.08)	(0.16)	(0.24)	(0.14)	0.12	0.36	0.00	0.85
San Juan	(0.15)	0.00	(0.10)	0.06)	0.00	0.00	0.00	0.21
REGIONAL TOTALS	5.01	3.68	4.10	3.94	7.41	6.32	3.19	6.80
Unknown Counties	0.08	0.00	0.00	0.00	5.04	0.05	0.38	0.07
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

( )Data may be biased because small sample size inflated county harvest beyond reasonable estimate for known pheasant populations.

Table 12. Percentage distribution of pheasant hunting pressure by county, 1989-96.

Region and County	Year							
	1989	1990	1991	1992	1993	1994	1995	1996
Northern Region								
Box Elder	8.77	10.67	10.66	11.21	10.00	11.49	12.92	17.81
Cache	5.68	7.98	9.18	9.40	7.55	10.33	10.74	13.47
Davis	7.85	7.32	6.31	5.78	6.01	6.06	6.97	3.35
Morgan	0.18	(0.15)	(0.23)	(0.07)	0.15	0.22	0.10	0.11
Rich	(0.07)	(0.01)	(0.02)	(0.00)	0.08	0.03	0.05	0.00
Summit	(0.04)	(0.01)	(0.23)	(0.00)	0.01	0.01	0.05	0.00
Weber	11.59	12.13	10.47	9.64	11.34	10.23	11.06	6.75
REGIONAL TOTALS	**34.17**	**38.29**	**37.10**	**36.11**	**35.14**	**38.37**	**41.90**	**41.48**
Central Region								
Juab	2.02	2.61	2.11	2.79	2.41	3.26	2.64	2.79
Salt Lake	3.84	4.11	3.41	3.71	2.35	1.91	2.55	2.13
Sanpete	7.55	6.81	4.87	5.44	4.41	5.24	3.40	4.34
Tooele	3.17	2.95	1.91	2.99	2.71	1.75	1.65	1.58
Utah	21.39	21.57	24.00	25.12	22.66	22.98	23.13	16.92
Wasatch	(0.18)	0.00	0.36	(0.12)	0.05	0.01	0.25	0.28
REGIONAL TOTALS	**38.15**	**38.06**	**36.66**	**40.18**	**34.59**	**35.15**	**33.62**	**28.04**
Southern Region								
Beaver	0.42	0.52	0.61	0.47	0.78	1.02	0.86	0.08
Garfield	0.08	(0.08)	0.01	(0.00)	0.00	0.01	0.05	0.00
Iron	0.83	0.71	0.92	0.45	0.60	0.85	0.75	0.30
Kane	(0.01)	0.00	0.00	(0.02)	0.00	0.00	0.00	0.06
Millard	5.52	5.74	6.27	6.06	5.97	6.58	5.17	6.31
Piute	0.30	(0.08)	(0.12)	(0.11)	0.11	0.11	0.05	0.28
Sevier	5.79	4.58	4.86	4.48	6.25	4.89	3.89	3.24
Washington	1.47	1.02	1.01	0.43	1.21	1.56	1.20	0.53
Wayne	(0.15)	(0.06)	(0.02)	(0.08)	0.09	0.19	0.11	0.03
REGIONAL TOTALS	**14.58**	**12.80**	**13.82**	**12.10**	**15.01**	**15.20**	**12.09**	**10.81**
Northeastern Region								
Daggett	(0.01)	(0.01)	0.00	(0.00)	0.07	0.00	0.00	0.06
Duchesne	4.27	3.55	4.22	4.33	4.95	2.73	4.48	7.00
Uintah	3.41	2.71	3.16	2.99	2.43	2.23	3.05	4.20
REGIONAL TOTALS	**7.70**	**6.28**	**7.38**	**7.32**	**7.45**	**4.97**	**7.53**	**11.26**
Southeastern Region								
Carbon	1.76	1.54	2.21	1.51	1.73	1.75	1.50	2.16
Emery	3.05	2.99	2.80	2.63	4.37	4.21	2.60	4.31
Grand	0.04	(0.11)	(0.24)	(0.06)	0.09	0.31	0.12	0.80
San Juan	(0.04)	(0.01)	(0.13)	(0.04)	0.05	0.00	0.01	0.25
REGIONAL TOTALS	**5.34**	**4.57**	**5.04**	**4.23**	**6.25**	**6.27**	**4.23**	**7.52**
Unknown Counties	0.74	0.06	0.00	0.05	1.56	0.04	0.63	0.88
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

( )Data may be biased because sample size inflated county harvest beyond reasonable estimate for known pheasant populations.

Table 13. Statewide summary of pheasant harvest statistics, 1948-97.

Year	Hunters	Harvest	Hunter-Days Afield	Pheasants Per Hunter-Day	Pheasants Per Hunter
1948	96,534	280,914	--	--	2.91
1949	88,369	263,340	189,453	1.39	2.98
1950	92,724	249,428	235,309	1.06	2.69
1951	76,576	246,575	171,233	1.44	3.22
1952	78,773	246,559	185,383	1.33	3.13
1953	82,595	245,307	176,480	1.39	2.97
1954	82,370	260,289	201,774	1.29	3.16
1955	78,793	196,195	178,359	1.10	2.49
1956	77,826	206,239	182,512	1.13	2.65
1957	83,025	228,319	170,387	1.34	2.75
1958	88,290	309,015	220,725	1.40	3.50
1959	86,268	243,276	202,730	1.21	2.82
1960	81,976	232,812	177,719	1.31	2.84
1961	83,493	238,439	243,305	0.98	2.86
1962	86,336	262,448	209,921	1.25	3.04
1963	87,647	297,873	198,582	1.50	3.40
1964	88,242	225,775	196,314	1.15	2.56
1965	77,409	211,876	186,215	1.14	2.74
1966	78,721	249,814	209,082	1.19	3.17
1967	85,664	284,000	257,033	1.10	3.32
1968	90,453	297,752	267,788	1.11	3.29
1969	90,573	250,241	277,887	0.90	2.76
1970	78,585	250,503	244,958	1.02	3.19
1971	87,878	259,189	294,618	0.88	2.95
1972	84,311	240,573	327,669	0.73	2.85
1973	75,968	196,012	278,033	0.70	2.58
1974	85,252	167,408	282,294	0.59	1.96
1975	77,566	143,783	234,615	0.61	1.85
1976	74,029	151,476	214,023	0.71	2.05
1977	67,195	148,168	191,142	0.78	2.21
1978	83,800	220,398	257,305	0.86	2.63
1979	87,462	216,700	266,245	0.81	2.48
1980	84,868	228,442	249,770	0.91	2.69
1981	83,408	234,217	265,381	0.88	2.81
1982	85,368	208,437	280,624	0.74	2.44
1983	77,847	220,074	265,731	0.83	2.83
1984	76,840	192,190	258,169	0.74	2.50
1985	69,889	146,807	233,328	0.63	2.10
1986	59,987	114,389	207,346	0.55	1.91
1987	57,118	119,236	199,470	0.60	2.09
1988	54,514	97,658	184,180	0.53	1.79
1989	50,382	80,769	177,364	0.46	1.60
1990	47,025	78,944	161,634	0.49	1.68
1991	42,813	72,612	150,096	0.48	1.70
1992	41,640	85,803	150,244	0.57	2.06
1993	39,640	63,336	141,399	0.45	1.60
1994	36,705	68,698	129,872	0.53	1.87
1995	38,391	71,202	142,755	0.50	1.85
1996	41,854	83,987	157,755	0.53	2.01
1997	37,622	78,693	140,135	0.56	2.09
Totals (1948-97)	3,690,614	9,766,190	10,424,346	--	--
Averages (1948-96)	74,551	197,704	209,882	0.89	2.56

Table 14. Pheasant field bag check summary, 1997.

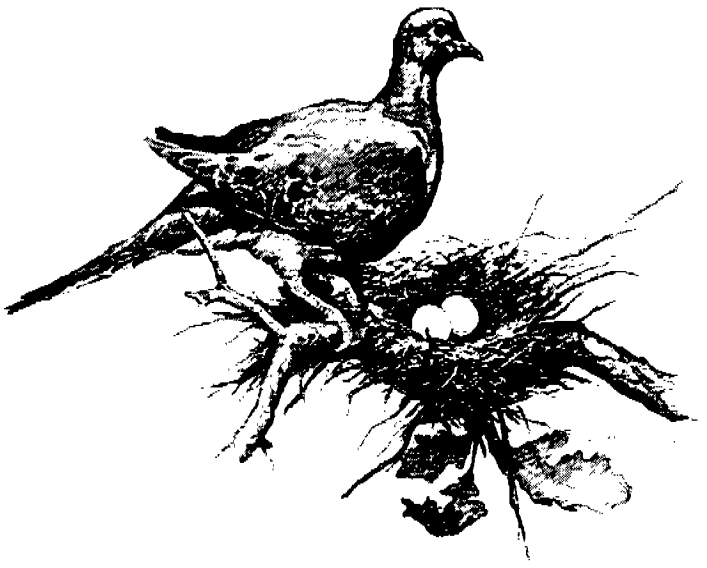
Region and County	All Hunts					Complete Hunts					
	Total Parties	Total Hunters	Total Hours	Total Birds	Birds/ 100 Hr	Complete Hunts	Total Hunters	Total Hours	Total Birds	Birds/ 100 Hr	Birds/ Hunter
Northern Region											
Box Elder	--	--	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Central Region											
Juab	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Southern Region											
Beaver	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Northeastern Region											
Daggett	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Southeastern Region											
Carbon	--	--	--	--	--	--	--	--	--	--	--
Emery	72	140	301	51	17	72	140	301	51	17	0.36
Grand	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	72	140	301	51	17	72	140	301	51	17	0.36
STATE TOTALS	72	140	301	51	17	72	140	301	51	17	0.36

Table 15. Pheasant hunter success trend as determined by field check, 1992-97.

Region and County	1992		1993		1994		1995		1996		1997	
	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter
Northern Region												
Box Elder	--	0.30	--	0.23	--	--	--	--	--	--	--	--
Cache	--	--	12	0.63	--	--	8	0.27	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	0.30	60	0.26	--	--	8	0.27	--	--	--	--
Central Region												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	13	0.52	12	0.50	--	--	--	--	--	--	--	--
Tooele	--	--	14	0.63	13	0.29	--	--	--	--	--	--
Utah	26	0.76	12	0.36	--	--	10	0.32	0	0.00	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	22	0.70	12	0.39	13	0.29	10	0.32	0	0.00	--	--
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	7	0.38	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	7	0.38	--	--	--	--	--	--	--	--
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	16	1.13	--	--	--	--	6	0.20	--	--	--	--
Uintah	50	0.50	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	18	0.92	--	--	--	--	6	0.20	--	--	--	--
Southeastern Region												
Carbon	--	--	--	--	--	--	--	--	--	--	--	--
Emery	34	0.51	22	0.29	15	0.33	28	0.55	17	0.38	17	0.36
Grand	--	--	42	0.40	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	34	0.51	24	0.31	15	0.33	28	0.55	17	0.38	17	0.36
STATE TOTALS	36	0.46	19	0.31	14	0.31	11	0.33	16	0.38	17	0.36

Table 16. Trends of spring pheasant breeding territory counts, 1993-97.

Region and County	Territorial Males per Square Mile					
	Year					Average
	1993	1994	1995	1996	1997	1993-96
Northern Region						
Spring Creek-1	2.00	6.00		8.00		5.33
Spring Creek-2		7.00		13.00		10.00
BudPhelps WMA	0.00	5.00		10.00		5.00
Mendon	3.00	3.00		4.00		3.33
Pertersboro	0.00	0.00		2.00		0.67
REGIONAL AVERAGE	1.25	4.20		7.40		4.87
Central Region						
North Utah County (Sections 26,27,30,31)			1.97	2.80	2.48	2.39
Central Utah County (Sections 4,18)			6.83	8.80	5.88	7.82
South Utah County (Sections 11,25)			0.83	0.00	0.67	0.42
REGIONAL AVERAGE			3.21	3.87	3.01	3.54
Southern Region						
Clear Lake WMA (Entire WMA)			7.00	16.00		11.50
Pahvant WMA (Entire WMA)			3.00	9.00		6.00
REGIONAL AVERAGE			5.00	12.50		8.75
Northeastern Region						
Daggett						
Duchesne						
Uintah						
REGIONAL AVERAGE						
Southeastern Region						
Carbon						
Emery						
Grand						
San Juan						
REGIONAL AVERAGE						
STATE AVERAGE	1.25	4.20	4.11	7.92	3.01	5.72



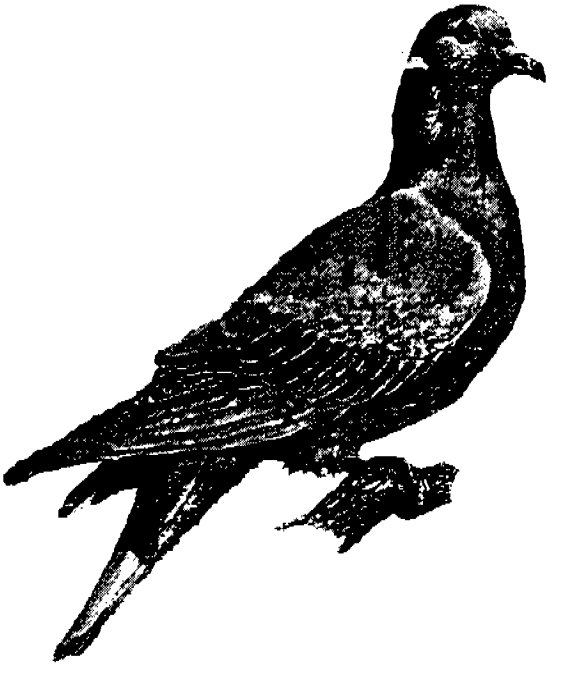
The breeding density index increased 12 percent in 1997, and was 16 percent above average.

Aging of wings indicated the juvenile per 100 adult ratio decreased to 100 compared to 116 in 1996. Juvenile per 100 adult ratio was 2 percent below the long-term average.

Harvest statistics derived from the questionnaire indicated an increase in number of doves harvested compared to 1996.

Field bag checks indicated a slight increase in hunter success on opening day. Hunters who participated hunted less hours per day than the previous year, and spent less time afield per dove harvested.

A free band-tailed pigeon hunting permit was required in 1997 to obtain mailing addresses for a questionnaire. One hundred three hunters obtained permits and 58 went afield. Ninety-eight pigeons were harveste The majority of the harvest occurred in Iron County.



MOURNING DOVE

Call Count Survey

Results of the 1997 call count survey are found in Table 1 of this section. The long-term trend of the state's breeding density index (average doves heard per route) is shown in Table 2. Indices shown in each of these tables are unweighted and consequently differ from those published in the annual Mourning Dove Status Report compiled by the U.S. Fish and Wildlife Service. However, indicated trends are similar (Figure 1). The following is a comparison of the results of the 1997 survey compared to 1996 and the 10-year (1987-96) average:

	1997	Percent change from 1996	Percent change from Average
Average doves heard per route	11.07	+12	+16
Average doves seen per route	6.87	-19	-33

Coo count data (doves heard per route) indicated increased breeding activity in late May compared to 1996, and was 16 percent above the long-term average of doves heard per route.

Harvest

Hunter Questionnaire

Information obtained from the hunter questionnaire for 1997 is summarized in Table 3. Long-term trends of mourning doves bagged per hunter-day, percent of harvest and percent of pressure (hunter-days) by county are found in Tables 4-6 and total statewide harvest statistics in Table 7 and Figures 2 and 3. The following is a comparison of the harvest statistics for 1997 compared to 1996 and the previous 46-year average:

	1997	Percent change from 1996	Percent change from Average
Mourning dove hunters	22,594	-3	+3
Mourning doves harvested	208,331	+4	+2
Hunter-days afield	84,638	-1	+21
Mourning doves per hunter-day	2.46	+5	-24
Mourning doves per hunter	9.3	+8	+3

Hunter success increased slightly from 1996. Total harvest increased 4 percent compared to 1996. Numbers of dove hunters decreased 3 percent and hunter-days afield decreased 1 percent. Doves per hunter increased 8 percent from 1996.

Figure 1. Mourning dove breeding density index trend, 1964-97.

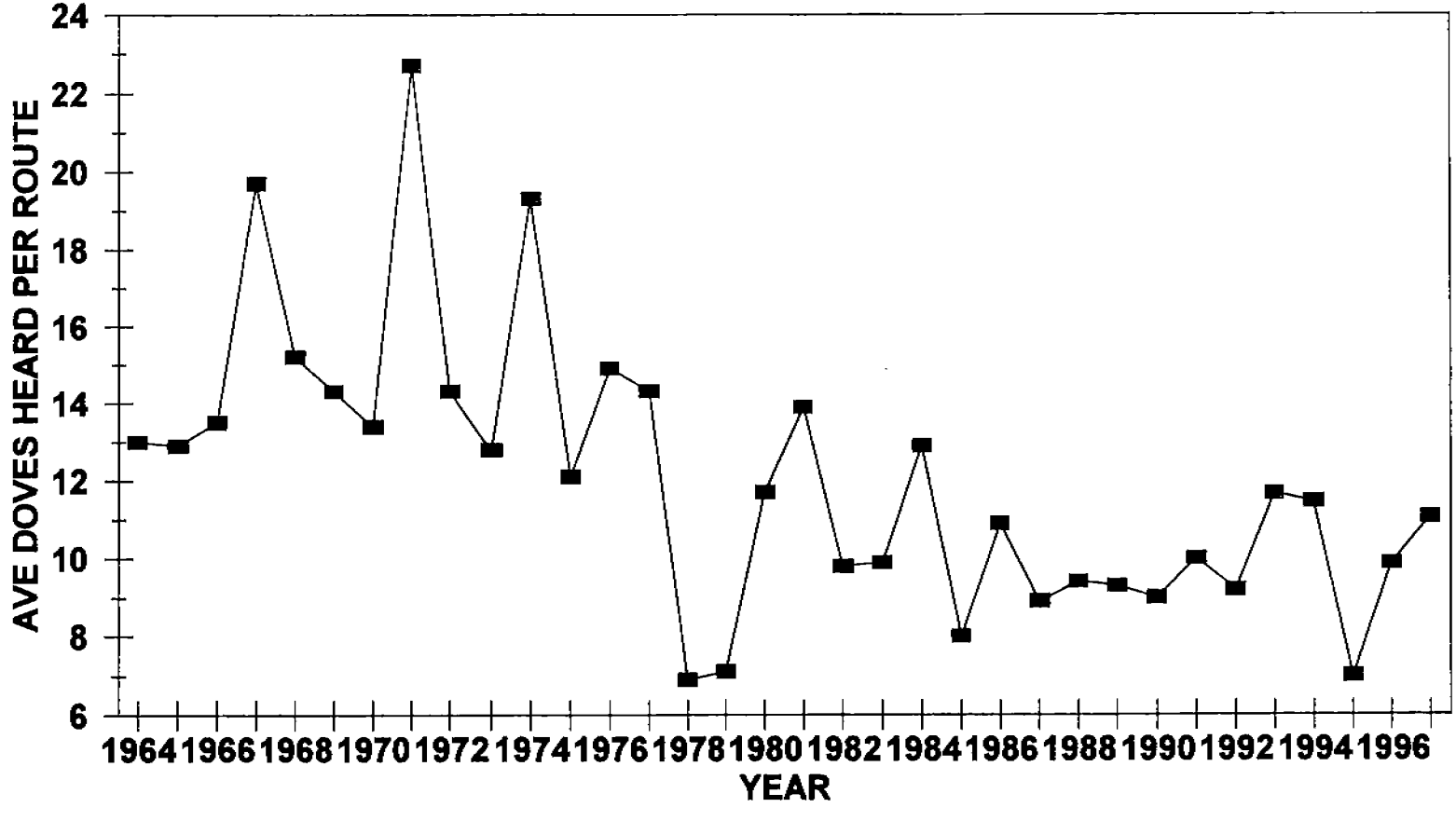


Figure 2. Statewide trends of mourning dove harvest statistics, 1951-97.

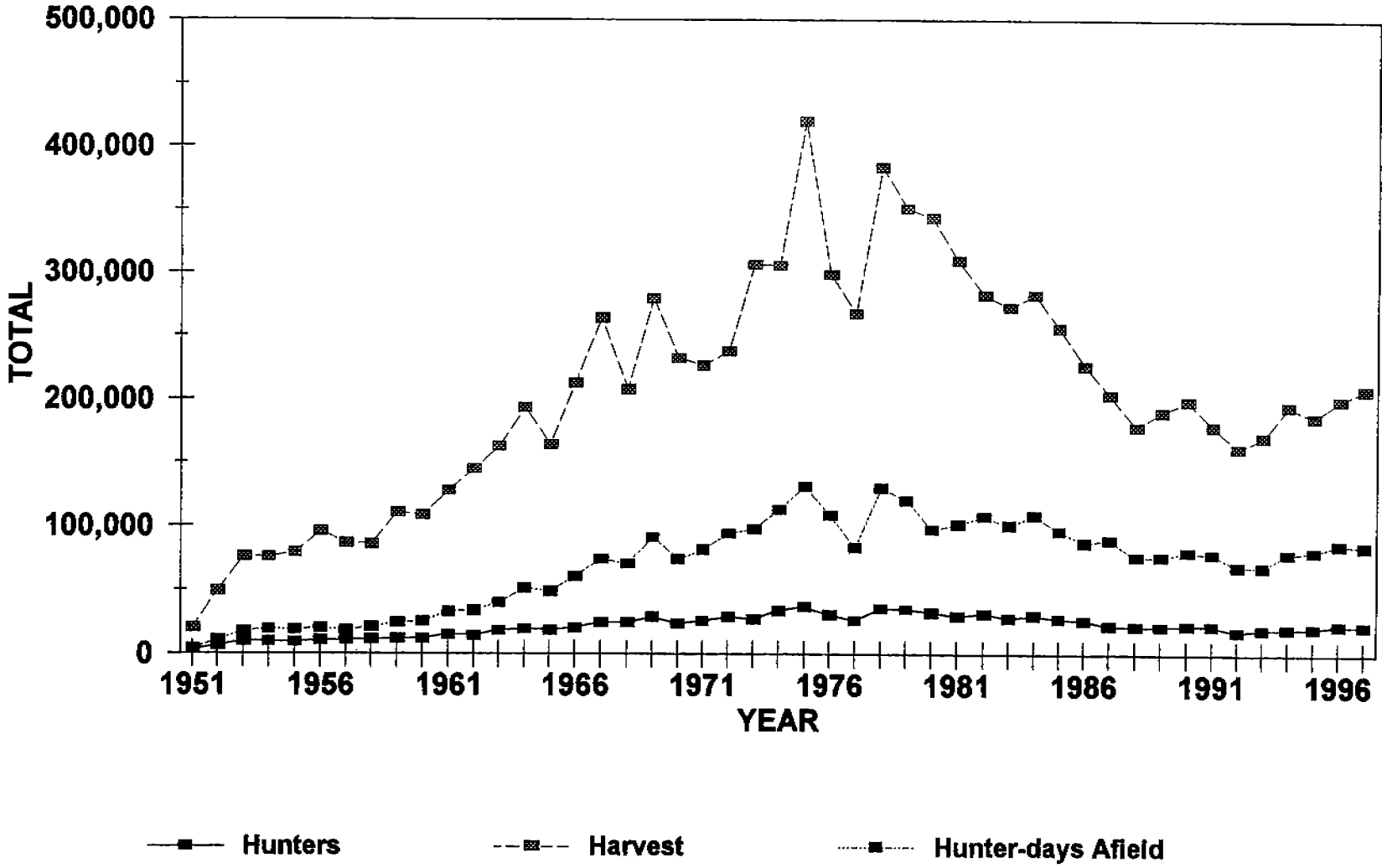
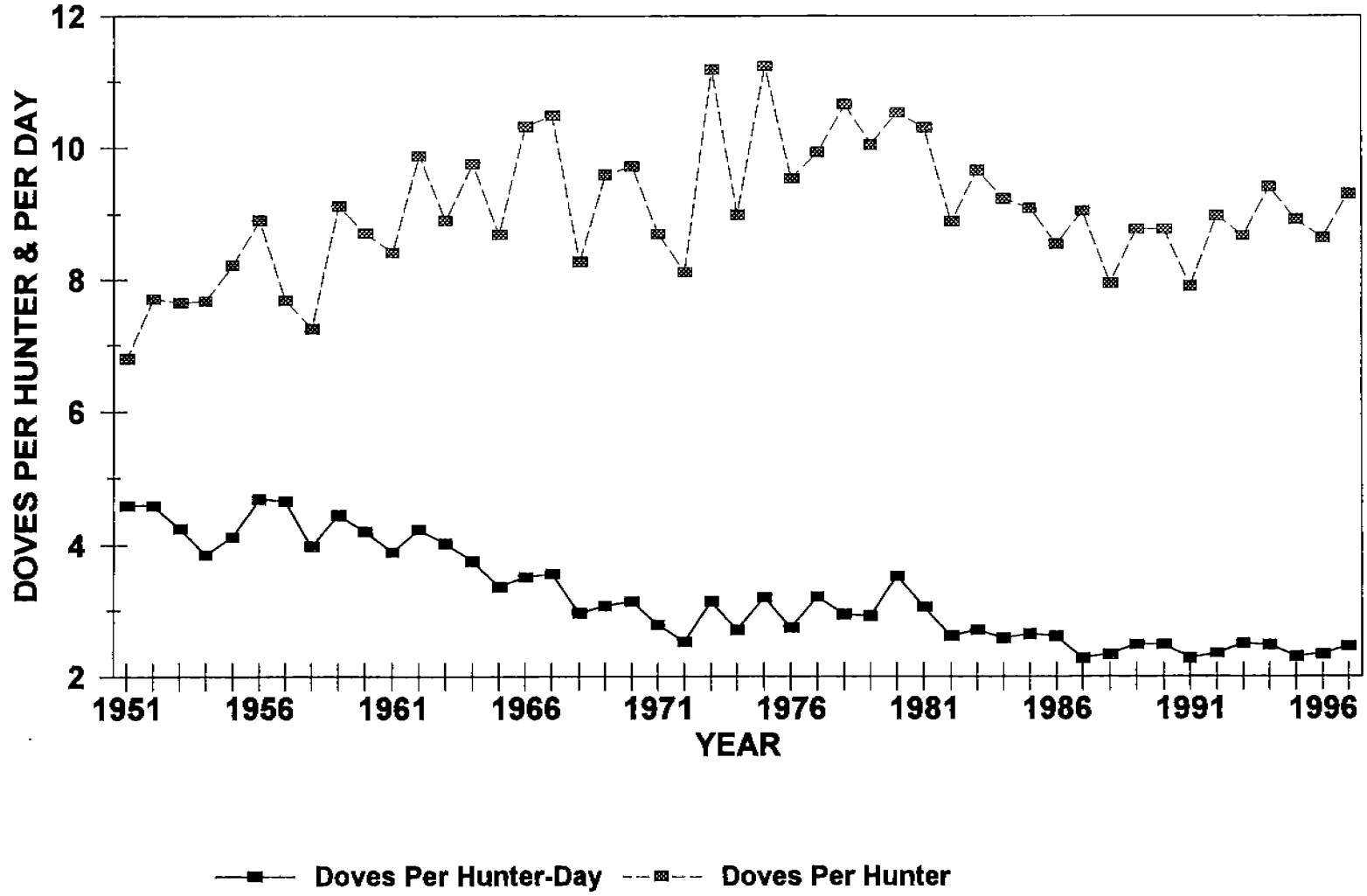


Figure 3. Statewide trends of mourning dove hunter success rates, 1951-97.



Field Bag Checks

A summary of field bag check data for 1997 is shown in Table 8. Hunter success trends determined via this method are shown in Table 9. Results of the 1997 survey compared to 1996 and the 10-year average (1987-96) follow:

	1997	Percent change from 1996	Percent change from Average
Total hunters checked	528	-29	-44
Total hours hunted	1,719	-44	-52
Doves per hunter (complete hunts)	1.87	+61	-39
Doves bagged per 100 hours (complete hunts)	57	+104	-28
Average hours per hunter-day (complete hunts)	3.26	-22	-16
Hours hunted per dove bagged (complete hunts)	2.01	-44	+55

Field bag checks indicated an opening day increase in hunter success. The total number of hunters checked was down 29 percent from 1996. Dove hunters spent less time afield per hunter-day than in 1996, and less time was spent per dove bagged.

Age Composition of the Harvest

A summary of the age composition of harvested mourning doves from 1987 through 1997 is contained in Table 10. Hatching dates for immature doves harvested in Utah since 1988 are shown in Table 11.

Following is a comparison of data collected in 1997 compared to 1996 and the 10-year average (1987-1996):

	1997	Percent change from 1996	Percent change from Average
Sample size	1,652	+6	-12
Immatures/100 adults	100	-14	-2
Percent hatched August	3	+45.9	0
Percent hatched July	25	+86.4	+6
Percent hatched before July 25	13.6		-27

Sample size increased 6 percent in 1997. The 100 immatures per 100 adults in the harvest was down 14 percent from the previous year and is 2 percent below the long-term average.

Table 1. Summary of the mourning dove call-count survey for 1997.

Region and County	Route Number	Total Doves Heard / Route	Total Doves Seen / Route
Northern Region			
Box Elder	R1500	3	3
Summit	R1020	3	1
REGIONAL TOTALS		6	4
Central Region			
Juab	R2830	22	28
REGIONAL TOTALS		22	28
Southern Region			
Beaver	R3820	12	7
Garfield	R1090	0	0
Iron	R4001	37	0
Millard	R3640	7	6
Sevier-Sanpete	R0370	6	21
Washington	R4311	4	2
Wayne-Sevier	R0660	3	0
REGIONAL TOTALS		69	36
Northeastern Region			
Duchesne	R0080	3	0
Uintah	R0220	3	0
REGIONAL TOTALS		6	0
Southeastern Region			
Emery	R0540	30	7
San Juan	R1171	19	18
San Juan	R1451	14	10
REGIONAL TOTALS		63	35
STATE TOTALS		166	103
STATE AVERAGES		11.07	6.87
PERCENT CHANGE (from previous year)		12	-20

Table 2. Regional and county summary of mourning dove breeding population trend as indicated by the number of doves heard per route during random call count surveys, 1981-97.

Region and County	Route Number	Number of Doves Heard Per Route																
		1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Northern Region																		
Box Elder	R1500	8	--	1	0	0	1	2	0	0	1	1	4	5	7	4	0	3
Summit	R1020	4	5	--	1	4	5	3	5	3	3	3	4	4	4	1	1	3
REGIONAL TOTALS		12	5	1	1	4	6	5	5	3	4	4	8	9	11	5	1	6
Central Region																		
Juab	R2830	22	9	25	19	20	19	16	23	13	36	38	15	42	41	23	41	22
REGIONAL TOTALS		22	9	25	19	20	19	16	23	13	36	38	15	42	41	23	41	22
Southern Region																		
Beaver	R3820	7	13	3	6	6	4	17	13	14	9	--	3	1	16	5	1	12
Garfield	R1090	9	2	3	15	3	1	1	0	16	0	0	3	2	0	0	0	0
Iron	R4001	36	21	19	31	41	26	23	20	10	12	15	26	49	40	9	4	37
Millard	R3640	10	9	5	14	2	2	3	5	4	5	8	7	7	10	5	16	7
Sevier-Sanpete	R0370	0	0	3	5	4	4	3	3	2	6	2	5	2	6	3	5	6
Washington	R4311	6	0	14	1	0	6	7	1	6	12	14	12	16	20	14	1	4
Wayne-Sevier	R0660	14	4	--	17	3	2	0	3	7	5	0	3	6	0	4	15	3
REGIONAL TOTALS		82	49	47	89	59	45	54	45	59	49	39	59	83	92	40	42	69
Northeastern Region																		
Duchesne	R0080	13	7	0	1	8	3	4	8	13	11	7	3	2	--	2	6	3
Uintah	R0220	19	1	9	10	5	20	12	6	0	2	3	2	3	7	5	6	3
REGIONAL TOTALS		32	8	9	11	13	23	16	14	13	13	10	5	5	7	7	12	6
Southeastern Region																		
Emery	R0540	22	7	11	10	3	10	11	15	8	2	5	8	14	13	18	7	30
San Juan	R1171	38	26	30	57	25	60	31	37	43	31	38	34	21	8	12	43	19
San Juan	R1451	0	24	5	7	2	0	1	2	1	0	3	9	1	0	0	2	14
REGIONAL TOTALS		60	57	46	74	30	70	43	54	52	33	46	51	36	21	30	52	63
STATE TOTALS		208	128	128	194	126	163	134	141	140	135	137	138	175	172	105	148	166
STATE AVERAGES		13.87	8.53	8.53	12.93	8.40	10.87	8.93	9.40	9.33	9.00	9.79	9.20	11.67	11.47	7.00	9.87	11.07
PERCENT CHANGE (from previous year)		18	-38	0	52	-35	29	-18	5	-1	-4	1	-8	27	-2	-39	41	12

Table 3. Summary of mourning dove hunter success and distribution of harvest and hunting pressure by region and county, 1997.

REGION AND COUNTY	SAMPLE SIZE*	HUNTER-DAYS AFIELD	BIRDS BAGGED	BIRDS PER HUNTER-DAY	% OF PRESSURE	% OF HARVEST
NORTHERN REGION						
BOX ELDER	151	9,644	26,937	2.79	11.39	12.93
CACHE	80	5,508	9,685	1.76	6.51	4.65
DAVIS	27	1,642	2,702	1.65	1.94	1.30
MORGAN	11	581	1,496	2.57	0.69	0.72
RICH	5	290	581	2.00	0.34	0.28
SUMMIT	4	872	415	0.48	1.03	0.20
WEBER	61	4,551	7,108	1.56	5.38	3.41
REGIONAL TOTALS	339	23,092	48,928	2.12	27.28	23.49
CENTRAL REGION						
JUAB	113	6,983	21,388	3.06	8.25	10.27
SALT LAKE	38	3,575	5,965	1.67	4.22	2.86
SANPETE	35	2,203	4,739	2.15	2.60	2.27
TOOELE	108	5,903	20,099	3.40	6.97	9.65
UTAH	213	14,632	31,427	2.15	17.29	15.09
WASATCH	5	270	665	2.46	0.32	0.32
REGIONAL TOTALS	512	33,568	84,284	2.51	39.66	40.46
SOUTHERN REGION						
BEAVER	15	935	3,824	4.09	1.11	1.84
GARFIELD	3	374	457	1.22	0.44	0.22
IRON	32	1,579	7,420	4.70	1.87	3.56
KANE	4	394	914	2.32	0.47	0.44
MILLARD	106	7,316	25,150	3.44	8.64	12.07
PIUTE	1	20	103	5.00	0.02	0.05
SEVIER	43	5,549	11,452	2.06	6.56	5.50
WASHINGTON	38	3,803	9,332	2.45	4.49	4.48
WAYNE	4	311	789	2.53	0.37	0.38
REGIONAL TOTALS	246	20,286	59,446	2.93	23.97	28.53
NORTHEASTERN REGION						
DAGGETT	1	20	187	9.00	0.02	0.09
DUCHESNE	21	872	2,203	2.52	1.03	1.06
UINTAH	23	2,369	5,196	2.19	2.80	2.49
REGIONAL TOTALS	45	3,263	7,586	2.32	3.86	3.64
SOUTHEASTERN REGION						
CARBON	14	810	1,496	1.85	0.96	0.72
EMERY	20	2,057	3,180	1.55	2.43	1.53
GRAND	3	332	332	1.00	0.39	0.16
SAN JUAN	9	685	2,556	3.73	0.81	1.23
REGIONAL TOTALS	46	3,886	7,565	1.95	4.59	3.63
Unknown	5	540	519	0.96	0.64	0.25
STATE TOTALS	1,193	84,638	208,331	2.46	100.00	100.00

**** Total hunter trips from questionnaire returns.***

Table 4. Summary of mourning doves bagged per hunter-day by region and county, 1990-97

Region and County	Year							
	1990	1991	1992	1993	1994	1995	1996	1997
Northern Region								
Box Elder	2.73	2.27	2.56	2.49	2.63	2.91	2.69	2.79
Cache	1.67	1.97	2.16	1.88	2.54	1.78	1.94	1.76
Davis	1.53	1.77	1.19	1.39	1.26	2.09	1.37	1.65
Morgan	1.73	2.31	2.47	0.88	2.93	3.65	2.45	2.57
Rich	1.95	3.45	2.27	1.18	1.67	0.83	1.54	2.00
Summit	7.00	1.78	3.25	0.25	2.61	5.00	2.00	0.48
Weber	1.48	1.30	1.79	1.50	1.57	2.07	1.74	1.56
REGIONAL TOTALS	**2.20**	**2.02**	**1.99**	**2.16**	**2.36**	**2.36**	**2.15**	**2.12**
Central Region								
Juab	3.70	3.33	3.34	4.25	2.72	3.35	3.53	3.06
Salt Lake	2.37	2.02	2.14	1.88	2.79	1.95	2.36	1.67
Sanpete	3.06	2.69	2.06	3.21	1.78	2.27	2.68	2.15
Tooele	1.90	2.29	2.14	2.06	2.45	2.02	2.48	3.40
Utah	2.05	1.89	1.77	2.12	2.43	1.72	1.94	2.15
Wasatch	2.42	2.11	2.37	1.83	2.15	2.21	1.70	2.46
REGIONAL TOTALS	**2.41**	**2.25**	**2.10**	**2.51**	**2.43**	**2.07**	**2.33**	**2.51**
Southern Region								
Beaver	1.71	3.32	3.41	1.52	3.72	2.73	3.23	4.09
Garfield	2.34	2.40	1.67	3.50	1.47	3.18	1.00	1.22
Iron	4.38	2.80	3.96	2.42	3.60	3.91	3.20	4.70
Kane	1.00	3.03	4.05	4.09	3.00	10.00	2.87	2.32
Millard	4.42	3.13	3.30	4.40	3.20	3.44	3.25	3.44
Piute	1.45	2.50	1.33	2.83	4.50	2.59	3.30	5.00
Sevier	2.18	2.09	2.42	2.10	2.36	1.21	1.76	2.06
Washington	2.81	3.63	2.54	2.74	2.28	3.06	3.41	2.45
Wayne	0.61	0.75	2.86	1.00	2.11	1.44	2.00	2.53
REGIONAL TOTALS	**3.20**	**2.87**	**3.09**	**2.98**	**2.94**	**2.84**	**2.79**	**2.93**
Northeastern Region								
Daggett	2.00	1.00	3.25	7.00	0.00	0.00	1.00	9.00
Duchesne	1.85	2.21	2.24	2.52	3.06	2.62	2.41	2.52
Uintah	3.17	1.06	2.06	2.12	3.35	2.01	1.96	2.19
REGIONAL TOTAL	**2.46**	**1.64**	**2.15**	**2.32**	**3.25**	**2.08**	**2.15**	**2.32**
Southeastern Region								
Carbon	1.18	0.25	2.15	1.51	2.82	0.96	1.93	1.85
Emery	2.04	1.68	3.10	3.73	2.06	2.10	2.11	1.55
Grand	4.04	1.13	0.00	2.21	1.50	0.47	2.08	1.00
San Juan	1.69	3.56	2.61	3.46	4.42	4.48	4.17	.73
REGIONAL TOTALS	**2.87**	**2.14**	**2.46**	**3.27**	**2.19**	**2.15**	**2.09**	**1.95**
Unknown counties	0.00	0.00	0.00	2.40	1.50	2.28	1.58	0.96
STATE TOTALS	2.49	2.28	2.35	2.51	2.48	2.31	2.34	2.46

Table 5. Percentage distribution of mourning dove harvest by region and county, 1990-97.

Region and County	Year							
	1990	1991	1992	1993	1994	1995	1996	1997
Northern Region								
Box Elder	9.95	9.60	9.09	11.18	12.10	13.61	11.96	12.93
Cache	3.34	5.54	7.20	4.85	5.07	5.40	4.53	4.65
Davis	2.57	2.39	1.15	0.79	1.41	2.40	2.55	1.30
Morgan	0.59	0.65	0.81	0.17	1.14	0.76	1.19	0.72
Rich	0.38	0.97	0.65	0.22	0.36	0.05	0.35	0.28
Summit	0.51	0.16	0.86	0.02	0.42	0.47	0.05	0.20
Weber	3.54	2.39	4.59	3.14	4.42	6.80	8.95	3.41
REGIONAL TOTALS	**20.88**	**21.71**	**24.35**	**20.37**	**24.93**	**29.50**	**29.60**	**23.49**
Central Region								
Juab	9.45	8.78	6.74	11.16	5.76	7.70	4.86	10.27
Salt Lake	5.71	5.00	5.15	2.59	5.24	2.34	4.23	2.86
Sanpete	3.23	4.84	3.57	4.10	3.41	3.11	3.31	2.27
Tooele	6.37	8.56	6.66	8.02	8.90	7.34	8.65	9.65
Utah	12.83	16.37	15.16	13.26	16.32	14.76	19.70	15.09
Wasatch	1.08	0.94	0.99	1.22	0.93	1.11	1.28	0.32
REGIONAL TOTALS	**38.67**	**44.50**	**38.27**	**40.36**	**40.64**	**36.36**	**42.02**	**40.46**
Southern Region								
Beaver	1.29	1.94	2.10	1.81	4.02	2.73	1.28	1.84
Garfield	0.92	0.35	0.05	0.39	0.25	0.73	0.11	0.22
Iron	6.20	3.07	5.57	2.37	2.79	5.83	2.96	3.56
Kane	0.07	0.91	0.98	1.00	0.08	0.21	0.41	0.44
Millard	13.35	9.29	11.80	13.31	40.87	8.25	6.05	12.07
Piute	0.57	0.68	0.31	0.38	0.41	0.46	0.27	0.05
Sevier	4.05	4.80	5.66	3.72	4.60	2.38	5.56	5.50
Washington	4.99	5.16	1.50	5.54	2.83	3.35	1.98	4.48
Wayne	0.11	0.03	0.22	0.16	0.34	0.14	0.14	0.38
REGIONAL TOTALS	**31.57**	**26.22**	**28.19**	**28.68**	**26.19**	**24.08**	**18.75**	**28.53**
Northeastern Region								
Daggett	0.06	0.01	0.14	0.08	0.00	0.00	0.22	0.09
Duchesne	1.62	2.61	1.21	1.74	0.94	1.59	1.98	1.06
Uintah	2.46	1.21	2.01	1.96	1.87	3.66	1.36	2.49
REGIONAL TOTALS	**4.15**	**3.82**	**3.36**	**3.77**	**2.81**	**5.25**	**3.55**	**3.64**
Southeastern Region								
Carbon	0.41	1.24	1.16	1.07	0.59	1.24	2.22	0.72
Emery	2.85	1.16	3.64	2.28	2.80	1.55	2.82	1.53
Grand	0.96	0.18	0.00	0.34	0.08	0.09	0.35	0.16
San Juan	0.51	1.18	1.03	0.92	1.91	1.17	0.16	1.23
REGIONAL TOTALS	**4.74**	**3.74**	**5.84**	**4.62**	**5.38**	**4.06**	**5.56**	**3.63**
Unknown counties	0.00	0.00	0.00	2.21	0.05	0.76	0.52	0.25
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 6. Percentage distribution of mourning dove hunting pressure by region and county, 1990-97.

Region and County	Year							
	1990	1991	1992	1993	1994	1995	1996	1997
Northern Region								
Box Elder	9.07	9.63	8.33	11.24	11.41	10.82	11.96	11.39
Cache	4.96	6.43	7.84	6.47	4.97	7.01	4.53	6.51
Davis	4.19	3.08	2.27	1.42	2.80	2.65	2.55	1.94
Morgan	0.85	0.64	0.77	0.47	0.96	0.48	1.19	0.69
Rich	0.49	0.64	0.67	0.47	0.54	0.14	0.35	0.34
Summit	0.18	0.20	0.62	0.22	0.40	0.22	0.05	1.03
Weber	5.94	4.19	6.03	5.24	6.98	7.59	8.95	5.38
REGIONAL TOTALS	25.67	24.83	26.53	25.54	28.05	28.91	29.60	27.28
Central Region								
Juab	6.35	6.01	4.74	6.58	5.26	5.30	4.86	8.25
Salt Lake	5.99	5.64	5.65	3.46	4.65	2.77	4.23	4.22
Sanpete	2.62	4.10	4.07	3.21	4.74	3.16	3.31	2.60
Tooele	8.33	8.54	7.32	9.76	9.13	8.41	8.65	6.97
Utah	15.52	19.75	20.08	15.70	16.69	19.78	19.70	17.29
Wasatch	1.11	1.02	0.98	1.67	1.07	1.16	1.28	0.32
REGIONAL TOTALS	39.91	45.06	42.85	40.38	41.53	40.57	42.02	39.66
Southern Region								
Beaver	1.88	1.33	1.44	2.98	2.68	2.31	1.28	1.11
Garfield	0.98	0.33	0.08	0.28	0.42	0.53	0.11	0.44
Iron	3.52	2.51	3.30	2.45	1.92	3.44	2.96	1.87
Kane	0.18	0.69	0.57	0.61	0.07	0.05	0.41	0.47
Millard	7.50	6.77	8.40	7.59	8.43	5.54	6.05	8.64
Piute	0.98	0.62	0.54	0.33	0.22	0.41	0.27	0.02
Sevier	4.63	5.24	5.49	4.43	4.83	4.53	5.56	6.56
Washington	4.42	3.24	1.39	5.08	3.09	2.53	1.98	4.49
Wayne	0.46	0.09	0.18	0.39	0.40	0.22	0.14	0.37
REGIONAL TOTAL	24.54	20.81	21.40	24.15	22.08	19.56	18.75	23.97
Northeastern Region								
Daggett	0.08	0.02	0.10	0.03	0.00	0.22	0.22	0.02
Duchesne	2.18	2.68	1.26	1.73	0.76	1.40	1.98	1.03
Uintah	1.93	2.60	2.29	2.31	1.39	4.22	1.36	2.80
REGIONAL TOTALS	4.19	5.30	3.66	4.07	2.15	5.83	3.55	3.86
Southeastern Region								
Carbon	0.87	1.31	1.80	0.95	1.52	1.59	2.22	0.96
Emery	3.47	1.58	2.76	1.53	3.38	1.71	2.82	2.43
Grand	0.59	0.36	0.08	0.39	0.13	0.46	0.35	0.39
San Juan	0.75	0.75	0.93	0.67	1.07	0.60	0.16	0.81
REGIONAL TOTALS	5.68	3.99	5.57	3.54	6.11	4.36	5.56	4.59
Unknown counties	0.00	0.00	0.00	2.31	0.09	0.77	0.52	0.64
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 7. Statewide summary of mourning dove harvest statistics, 1951-97.

Year	Total Hunters	Total Harvest	Hunter-days Afield	Doves Per Hunter-Day	Doves Per Hunter
1951	3,007	20,448	4,455	4.59	6.80
1952	6,420	49,498	10,784	4.59	7.71
1953	9,887	75,636	17,797	4.25	7.65
1954	9,901	75,941	19,724	3.85	7.67
1955	9,653	79,444	19,282	4.12	8.23
1956	10,744	95,729	20,411	4.69	8.91
1957*	11,298	86,769	18,620	4.66	7.68
1958	11,853	85,934	21,591	3.98	7.25
1959	12,142	110,856	24,911	4.45	9.13
1960	12,440	108,477	25,766	4.21	8.72
1961	15,192	128,001	33,434	3.89	8.42
1962	14,663	144,826	34,281	4.23	9.89
1963	18,258	162,769	40,490	4.02	8.91
1964	19,829	193,538	51,671	3.75	9.76
1965	18,710	164,087	48,835	3.36	8.69
1966	20,594	212,696	60,608	3.51	10.33
1967	25,161	263,949	74,171	3.56	10.49
1968	25,105	207,922	70,186	2.96	8.28
1969	29,131	279,311	90,965	3.07	9.59
1970	23,908	232,469	73,984	3.14	9.72
1971	26,064	226,645	81,271	2.79	8.70
1972	29,341	238,354	94,046	2.53	8.12
1973	27,435	307,062	97,788	3.14	11.19
1974	34,021	306,076	112,967	2.71	9.00
1975	37,378	420,308	131,312	3.20	11.24
1976	31,293	298,505	108,780	2.74	9.54
1977	26,905	267,487	83,218	3.21	9.94
1978	35,985	383,696	130,173	2.95	10.66
1979	34,903	351,161	120,459	2.92	10.06
1980	32,627	343,851	97,644	3.52	10.54
1981	30,060	310,068	101,728	3.05	10.31
1982**	31,756	282,188	107,728	2.62	8.89
1983	28,258	272,979	100,568	2.71	9.66
1984	30,573	282,307	108,793	2.59	9.23
1985	28,183	256,045	96,507	2.65	9.09
1986	26,583	226,985	87,084	2.61	8.54
1987***	22,553	204,030	89,378	2.28	9.05
1988	22,457	178,469	76,219	2.34	7.95
1989	21,696	190,328	76,372	2.49	8.77
1990	22,700	199,007	80,076	2.49	8.77
1991	22,632	178,853	78,405	2.28	7.90
1992	18,021	161,902	68,937	2.35	8.98
1993	19,725	170,834	68,143	2.51	8.66
1994	20,743	195,089	78,594	2.48	9.41
1995	20,896	186,336	80,688	2.31	8.92
1996	23,180	200,167	85,613	2.34	8.64
1997	22,594	208,331	84,638	2.46	9.3
Totals (1951-97)	1,036,458	9,625,363	3,289,095	--	--
Averages (1951-96)	22,041	204,718	69,662	3.23	9.03

* Estimated.
**Bag limit increased to 15.
***Bag limit reduced to 10.

Table 8. Mourning dove field bag check summary, 1997.

Region and County	All Hunts					Complete Hunts					
	Total Parties	Total Hunters	Total Hours	Total Birds	Birds/ 100 Hr	Complete Hunts	Total Hunters	Total Hours	Total Birds	Birds/ 100 Hr	Birds/ Hunter
Northern Region											
Box Elder	--	--	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Central Region											
Juab	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Southern Region											
Beaver	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Northeastern Region											
Daggett	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Southeastern Region											
Carbon	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--
San Juan	9	25	66	102	156	6	14	39	81	210	5.79
REGIONAL TOTALS	9	25	66	102	156	6	14	38.5	81	210	5.79
LEHI CHECK STATION	40	70	264	78	30	30	59	195	61	31	1.03
NEPHI CHECK STATION	131	353	1,072	1,097	102	84	234	732	845	115	3.61
THIOKOL CHECK STATION	89	221	753	715	95	89	221	753	715	95	3.24
STATE TOTALS	269	669	2,155	1,992	92	209	528	1,719	987	57	1.87

Table 9. Mourning dove hunter success trend as determined by field bag checks, 1991-97.

Region and County	1992		1993		1994		1995		1996		1997	
	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter
Northern Region												
Box Elder	--	--	--	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
Central Region												
Juab	--	--	110	5.26	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	117	4.42	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	115	4.64	--	--	--	--	--	--	--	--
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
Southeastern Region												
Carbon	219	7.08	280	7.00	--	--	--	--	--	--	--	--
Emery	265	4.07	198	7.92	327	6.13	121	2.71	--	--	--	--
Grand	--	--	200	1.00	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	154	4.05	144	2.57	--	--	210	5.79
REGIONAL TOTALS	235	5.46	202	6.93	193	4.64	127	2.67	--	--	210	5.79
LEHI CHECK STATION	50	2.73	130	4.43	88	3.09	40	1.58	30	1.19	31	1.03
NEPHI CHECK STATION	84	4.01	110	5.26	127	3.79	114	4.13	66	2.48	115	3.61
THIOKOL CHECK STATIO	127	3.64	141	5.21	--	--	95	4.66	56	2.70	95	3.24
STATE TOTALS	60	2.85	112	4.36	83	2.88	56	2.22	28	1.16	54	1.76

Table 10. Age composition (Immatures/100 Adults) of Mourning Doves Harvested, 1987-97.

Region and County	1987		1988		1989		1990		1991		1992		1993		1994		1995		1996		1997		1987-96 Average	
	I/	100A(n)	I/	100A(n)	I/	100A(n)	I/	100A(n)	I/	100A(n)	I/	100A(n)	I/	100A(n)	I/	100A(n)	I/	100A(n)	I/	100A(n)	I/	100A(n)	I/	100A(n)
Northern Region																								
Box Elder	128	770	–	–	82	435	239	487	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
Cache	325	17	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
Davis	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
Morgan	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
Rich	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
Summit	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
Weber	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
REGIONAL TOTALS	132	787	–	–	82	435	239	487	–	–	–	–	–	–	–	–	–	–	–	–	–	–	151	570
Central Region																								
Juab	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
Salt Lake	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
Sanpete	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
Tooele	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	83	11	–	–	–	–		
Utah	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
Wasatch	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
REGIONAL TOTALS	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	83	11	–	–	–	–	83	11
Southern Region																								
Beaver	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
Garfield	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
Iron	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
Kane	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
Millard	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	141	41	–	–	–	–		
Piute	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
Sevier	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
Washington	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
Wayne	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
REGIONAL TOTALS	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	141	41	–	–	–	–	141	41
Northeastern Region																								
Daggett	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
Duchesne	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
Uintah	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
REGIONAL TOTALS	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Southeastern Region																								
Carbon	–	–	–	–	–	–	128	73	–	–	68	84	64	18	–	–	–	–	–	–	–	–		
Emery	80	187	70	187	85	37	79	143	81	96	189	70	104	104	–	–	–	–	–	–	–	–		
Grand	–	–	–	–	50	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
San Juan	63	275	31	42	56	39	93	137	36	30	63	150	–	–	132	95	60	176	–	–	67	92		
REGIONAL TOTALS	63	462	61	229	56	86	93	353	68	126	81	304	97	122	132	95	60	176	–	–	67	92	79	217
LEHI CHECK STATION	130	1,283	114	741	92	978	116	144	109	587	–	–	95	1,048	151	601	124	452	77	525	152	78	112	707
NEPHI CHECK STATION	180	1,004	******	671	64	955	134	829	126	772	93	406	72	588	123	515	84	730	86	546	89	869	201	702
THIOKOL CHECK STATIO	–	–	–	–	–	–	–	–	115	370	90	177	80	269	154	424	142	445	98	493	82	613	113	366
STATE TOTALS	137	3,536	100	1,641	77	2,454	127	1,813	114	1,855	92	887	86	2,047	73	1,635	96	1,855	116	1,564	100	1,652	102	1,929

Table 11. Percent of harvest by hatching date of immature mourning doves in Utah, 1988-97.

Date Hatched	Age (Days)	P	PERCENT OF HARVEST BY HATCH DATE										SAMPLE SIZE									
			1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Aug 3	29	none	--	41.3	52.2	--	37.8	--	53.7	56.1	--	45.9	--	81	254	--	118	--	22	37	--	17
Jul 31	32	1	--	30.1	26.7	--	32.1	--	19.5	21.2	--	21.6	--	59	130	--	100	--	8	14	--	8
Jul 25	38	2	--	18.4	13.1	--	10.9	--	9.8	10.6	--	18.9	--	36	64	--	34	--	4	7	--	7
Jul 18	45	3	--	6.6	4.3	--	9.3	--	7.3	6.1	--	5.4	--	13	21	--	29	--	3	4	--	2
Jul 9	54	4	--	2.6	2.3	--	4.5	--	7.3	4.5	--	8.1	--	5	11	--	14	--	3	3	--	3
Jun 30	63	5	--	0.5	0.6	--	4.2	--	0.0	1.5	--	0.0	--	1	3	--	13	--	0	1	--	0
Jun 21	72	6	--	0.0	0.4	--	1.0	--	2.4	0.0	--	0.0	--	0	2	--	3	--	1	0	--	0
Jun 8	85	7	--	0.5	--	--	0.3	--	0.0	0.0	--	0.0	--	1	--	--	1	--	0	0	--	0
May 22	102	8	--	0.0	--	--	--	--	0.0	0.0	--	0.0	--	0	--	--	--	--	0	0	--	0
Apr 27	127	9	--	0.0	0.4	--	--	--	0.0	0.0	--	0.0	--	0	2	--	--	--	0	0	--	0
Apr 21	133	10	--	0.0	0.0	--	--	--	0.0	0.0	--	0.0	--	0	--	--	--	--	0	0	--	0
			--	100	100	--	100	--	100	100	--	100	--	196	487	--	312	--	41	66	--	37

P = Last primary molted.

BAND-TAILED PIGEON

Harvest

Results of the 1997 band-tailed pigeon harvest is in Table 13. Free hunting permits were required in 1997 and a questionnaire was sent to participants. Only 103 hunters obtained the band-tailed pigeon permit in 1997. Harvest trends since 1970 are shown in Figures 4 & 5 and Table 14.

	1997	Percent change from 1996	Percent change from Average
Band-tailed pigeon hunters afield	58	+57	+36
Band-tailed pigeon harvest	98	+7	-15
Hunter-days afield	209	+67	+83
Pigeons per hunter-day	0.47	-11	-52
Pigeons per hunter	1.69	-32	-38

Band-tailed pigeon hunters afield increased from 1996, and was 36 percent above the long-term average.

Ninety-eight pigeons were reported harvested in 1997.

Figure 4. Band-tailed pigeon harvest statistics, 1970-97.

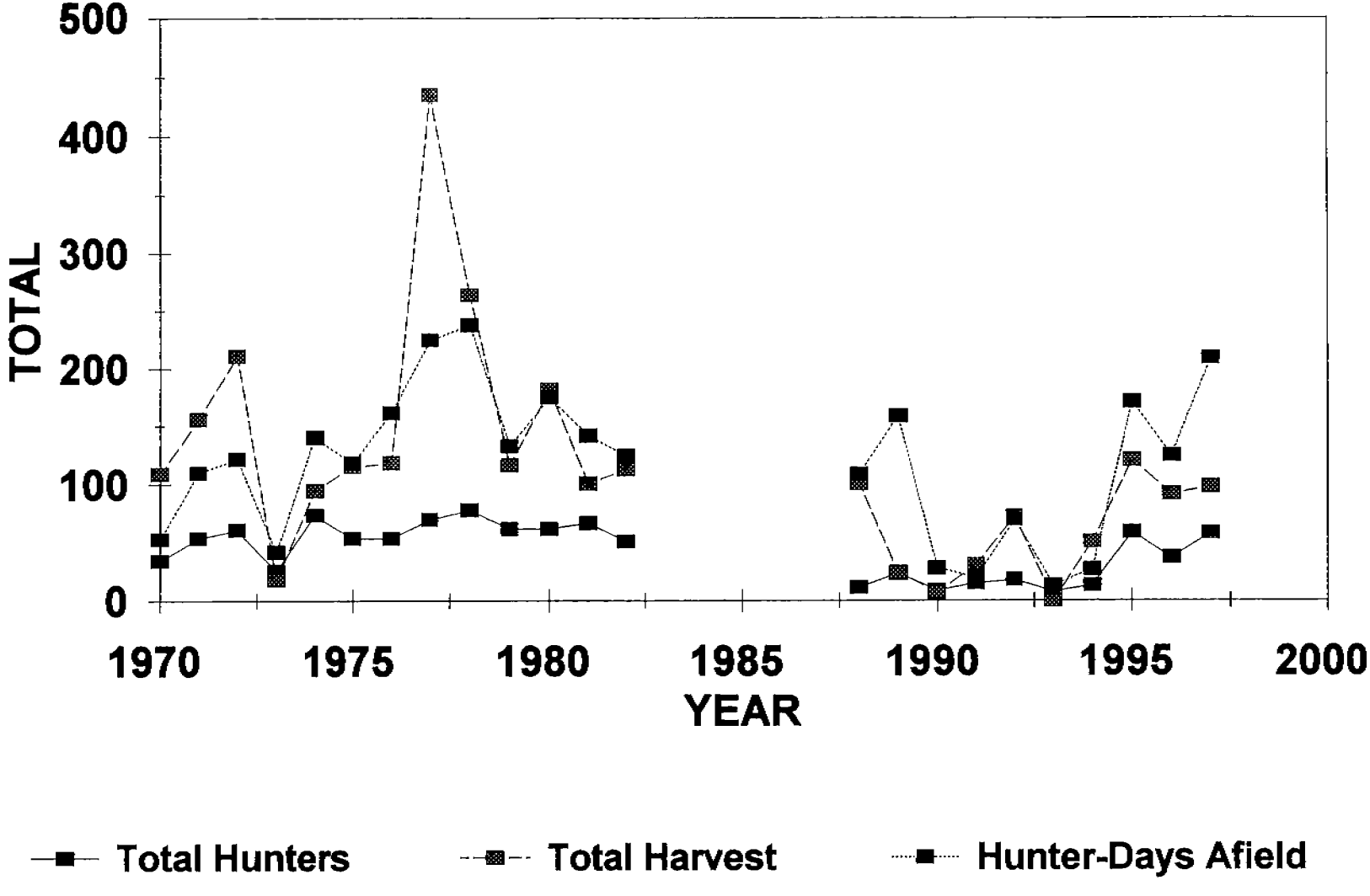


Figure 5. Trends of band-tailed pigeon hunter success rates, 1970-97.

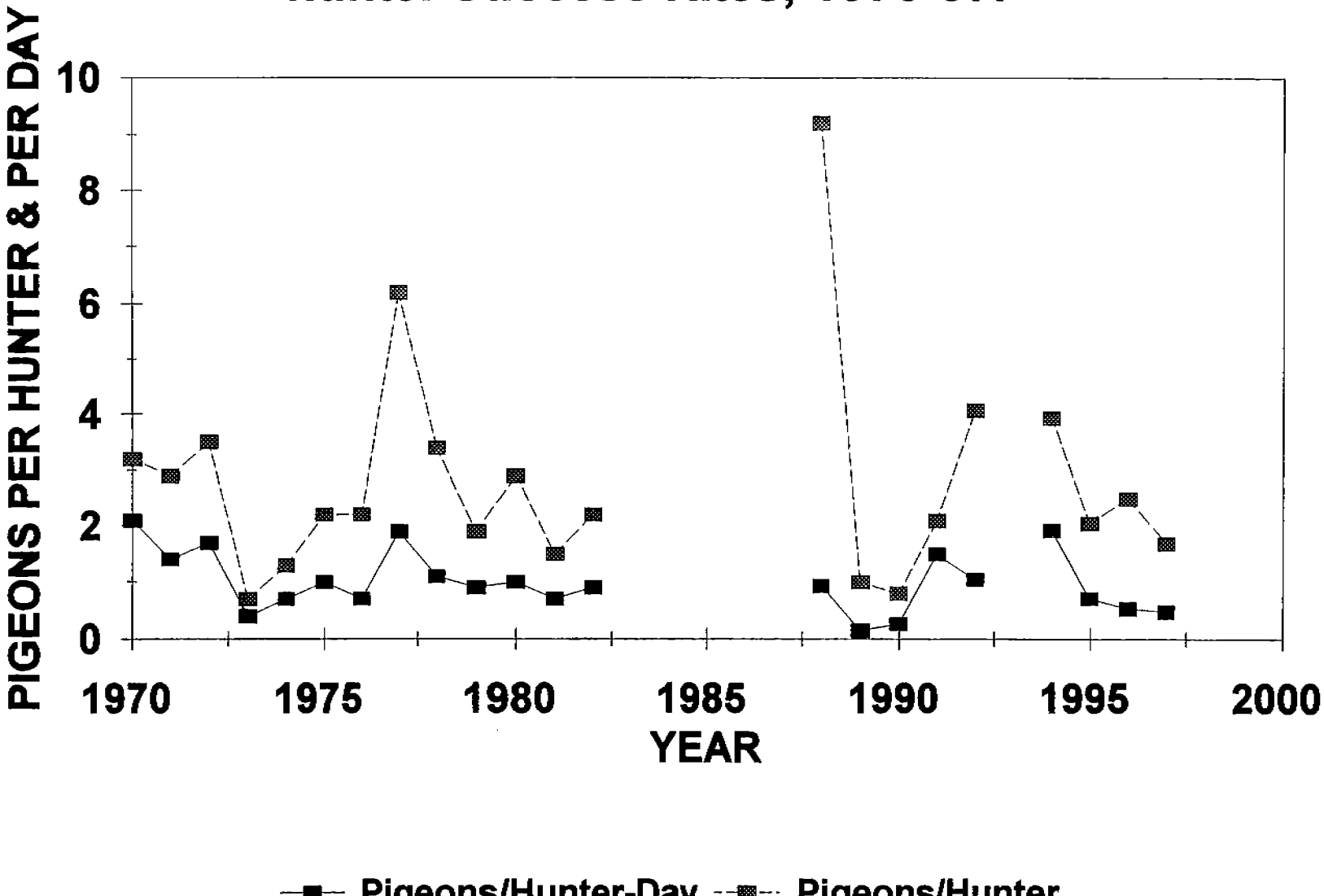


Table 13. Band-tailed pigeon harvest statistics, 1997.

Area Hunted	Hunters Afield	Hunter-Days Afield	Harvest	Pigeons/ Hunter-Day	Pigeons/ Hunter	Percent Pressure*	Percent Harvest	Pigeons Crippled	Pigeons Observed
Beaver County	5	34	1	0.03	0.20	16	1.02		
Blue Mountain-Elk Ridge	2	9	0	0.00	0.00	4	0.00		
Iron County	13	30	40	1.33	3.08	14	40.82		
Kane County	3	5	5	1.00	1.67	2	5.10		
LaSal Mountain	14	41	31	0.76	2.21	20	31.63		
Washington County	11	31	21	0.68	1.91	15	21.43		
Other	10	59	0	0.00	0.00	28	0.00		
Totals	58	209	98	0.47	1.69	100	100	6	1,717

*Based on hunter-days.

Projection Factor = 1.25609756098
103 PERMITS SOLD
82 QUESTIONNAIRES RETURNED
80 QUESTIONNAIRE RETURN RATE (PERCENT)

Table 14. Statewide summary of band-tailed pigeon harvest statistics, 1970-97.

Year	Total Hunters	Total Harvest	Hunter-Days Afield	Pigeons/Hunter-Day	Pigeons/Hunter
1970	34	109	53	2.10	3.20
1971	54	156	110	1.40	2.90
1972	61	211	122	1.70	3.50
1973	25	18	42	0.40	0.70
1974	74	95	141	0.70	1.30
1975	54	116	119	1.00	2.20
1976	54	119	162	0.70	2.20
1977	70	435	225	1.90	6.20
1978	78	264	238	1.10	3.40
1979	62	117	133	0.90	1.90
1980	62	182	175	1.00	2.90
1981	67	101	142	0.70	1.50
1982	51	113	125	0.90	2.20
1983	--	--	--	--	--
1984	--	--	--	--	--
1985	--	--	--	--	--
1986	--	--	--	--	--
1987	--	--	--	--	--
1988	11	101	109	0.93	9.20
1989	23	24	159	0.15	1.00
1990	9	7	28	0.26	0.80
1991	15	31	20	1.50	2.10
1992	18	73	70	1.05	4.06
1993	8	0	13	--	--
1994	13	51	27	1.92	3.92
1995	59	121	171	0.71	2.05
1996	37	92	125	0.53	2.49
1997	58	98	209	0.47	1.69
Totals (1970-97)	997	2,634	2,718	--	--
Averages (1970-96)	43	115	114	0.98	2.71

Aerial Survey

Results of the annual aerial survey for 1997 are shown in Table 1 of this section. Following are the survey results for 1997 compared to 1996.

	1997	Percent change from 1996	Percent change from Average
Coveys flushed	18	+50	--
Total chukars observed	295	+186	--
Chukars per square mile	36.88	+132	--
Chukars per survey hour	252.14	+186	--

This population survey technique was implemented in 1996. The survey allows for rapid counting of localized chukar populations versus ground brood count surveys. Chukars observed per square mile increased 132 percent over 1996. Chukars observed per survey hour increased 186 percent over 1996.

Harvest

Hunter Questionnaire

Results of the hunter questionnaire survey for 1997 are shown in Table 2. Long-term trends of chukars bagged per hunter-day, percent of harvest and percent of pressure (hunter-days) by county are found in Tables 3-5 and total statewide harvest statistics in Table 6 and Figures 1 and 2. Following is a comparison of 1997 harvest statistics to 1996 and the previous 39-year average:

	1997	Percent change from 1996	Percent change from Average
Chukar hunters	9,665	-5	-28
Chukars harvested	23,840	-10	-36
Hunter-days afield	34,711	-6	-15
Chukars per hunter-day	0.69	-4	-21
Chukars per hunter	2.47	-5	-8

Chukar hunters and hunter effort decreased from 1996. Chukars per hunter-day decreased slightly from 1996, and remains 21 percent below the long-term average. Total harvest decreased 10 percent in 1997.

Field Bag Checks

A summary of field bag check data for 1997 is shown in Table 7. The hunter success trend determined via this method are shown in Table 8. Data for the 1997 season compared to 1996 and the 10-year (1987-96) average follow:

	1997	Percent change from 1996	Percent change from Average
Total hunters checked	51	--	+2
Total hours hunted	191.5	--	+1
Chukars per hunter (complete hunts)	0.57	--	-67
Chukars bagged per 100 hours (complete hunts)	15	--	-68
Average hours per hunter-day (complete hunts)	3.75	--	-5
Hours hunted per chukar bagged (complete hunts)	7.37	--	+165

Random chukar field bag check data was collected in Tooele County only.

Early spring precipitation (January - April), critical to successful chukar production, was normal.

Results of the aerial survey indicated that brood production was above 1996.

Harvest statistics from the general mail questionnaire reflected a decreased harvest of 10 percent from 1996. Hunter success (chukars per hunter-day) decreased 4 percent from 1996 while time afield increased 6 percent.

Figure 1. Statewide trends of chukar partridge harvest statistics, 1958-97.

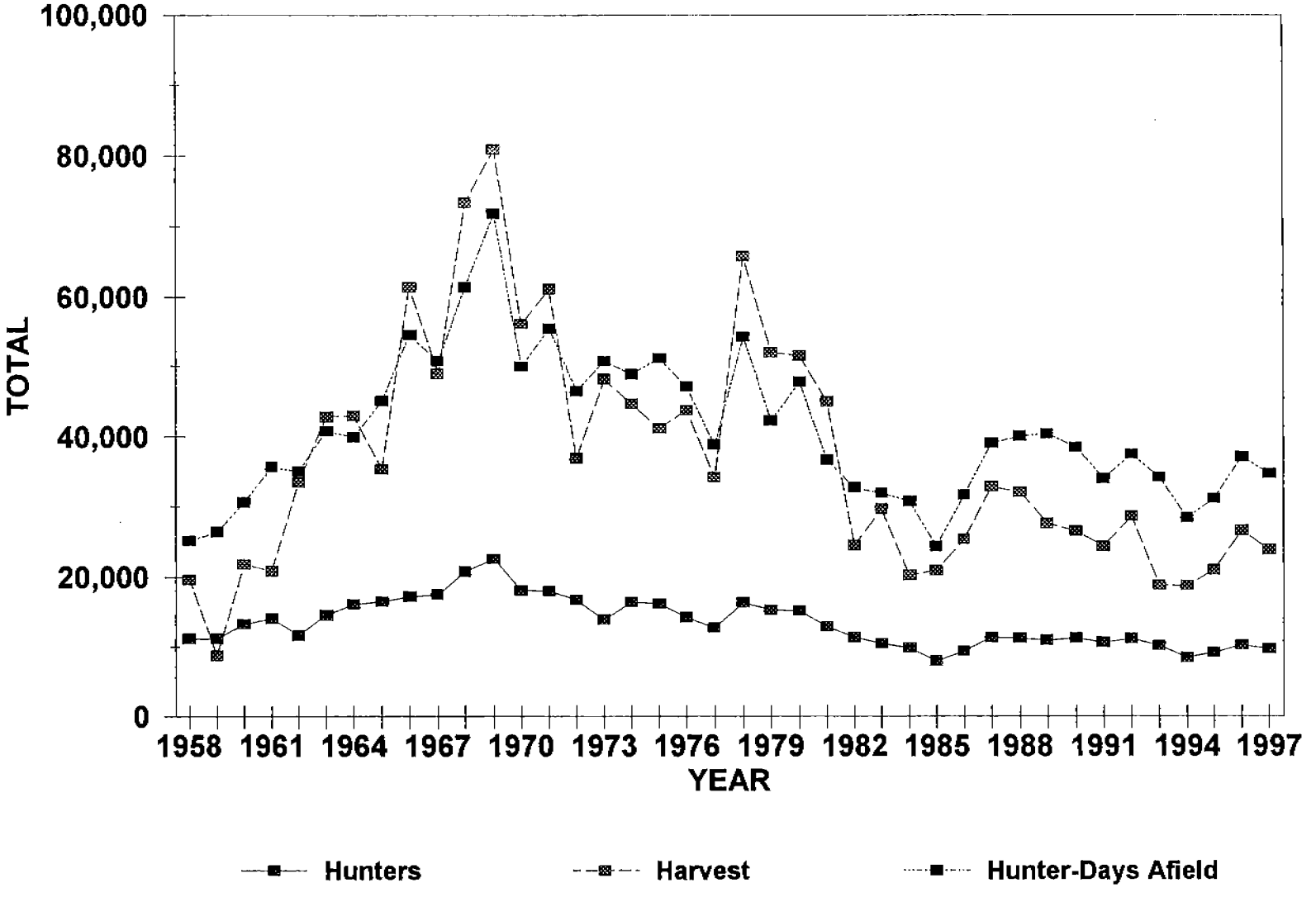


Figure 2. Statewide trends of chukar hunter success rates, 1958-97.

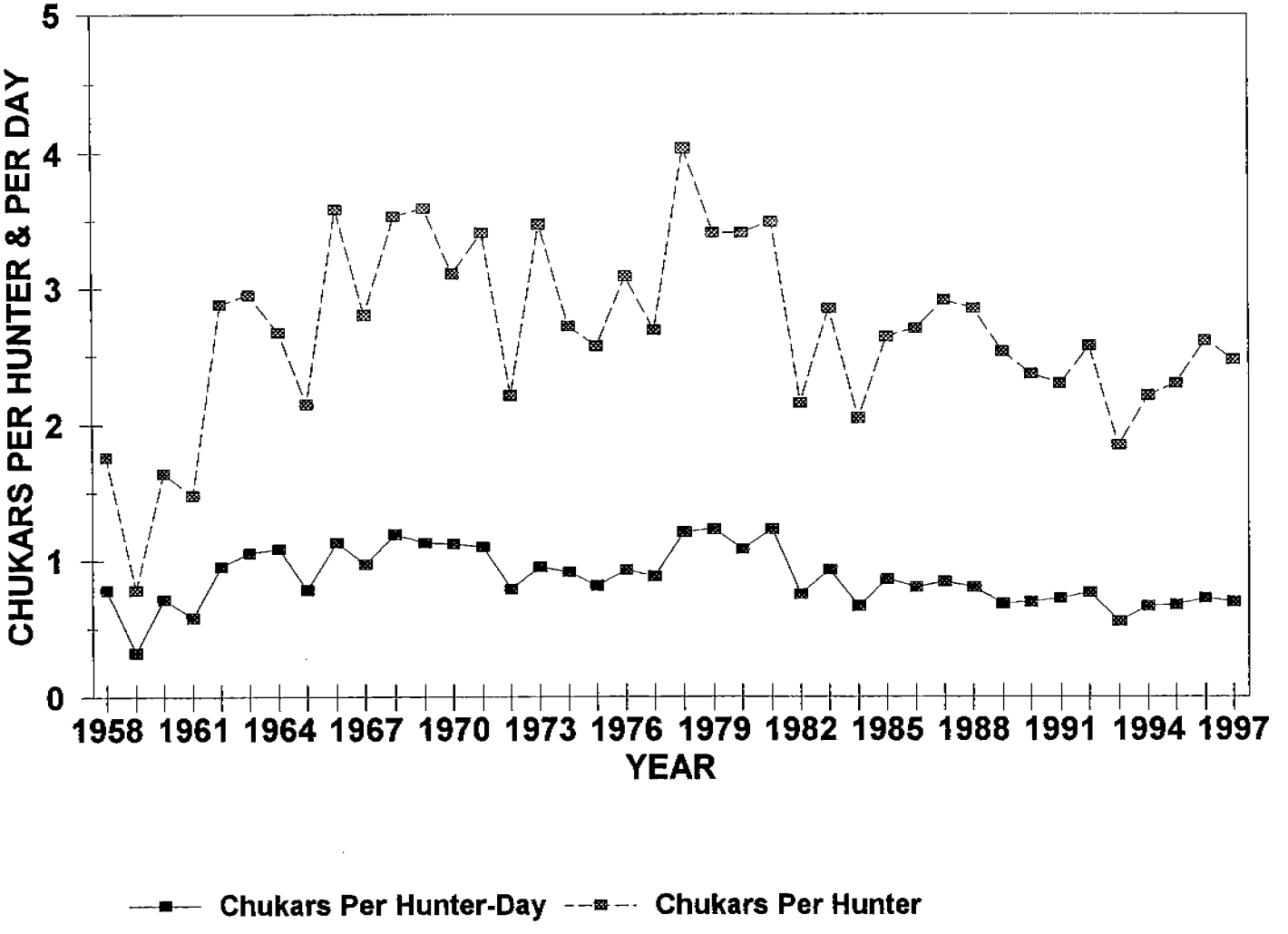


Figure 3. Jan-Apr precipitation vs. chukar production, 1968-97.

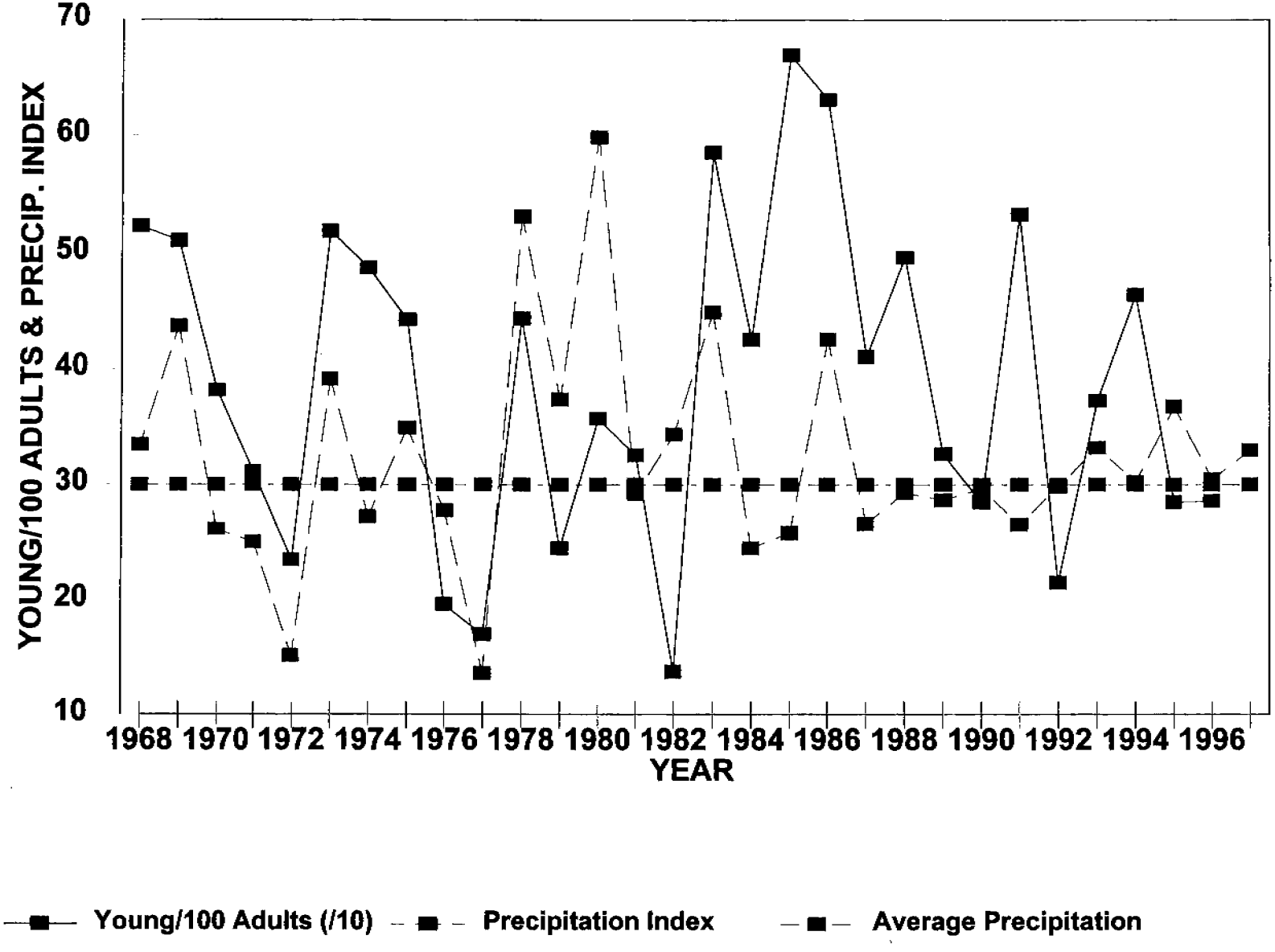


Table 1. Chukar aerial survey, 1996-97.

Year	Area	Date	Coveys Flushed	Total Chukars Observed	Square Miles Surveyed	Chukars/Square Mile	Elasped Time (hours)	Chukars/Survey Hour
1996	Northeast Cedar Mountains (Tooele County)	08/21/96	12	103	6.49	15.87	1.17	88.03
1997	Northeast Cedar Mountains (Tooele County)	08/20/97	18	295	8.00	36.88	1.17	252.14
Totals (1996-97)			30	398	14.49	--	2.34	--
Averages (1996-97)			15	199	7.25	26.37	1.17	170.09

Table 2. Summary of chukar hunter success and distribution of harvest and hunting pressure by region and county, 1997.

REGION AND COUNTY	SAMPLE SIZE*	HUNTER-DAYS AFIELD	BIRDS BAGGED	BIRDS PER HUNTER-DAY	% OF PRESSURE	% OF HARVEST
NORTHERN REGION						
BOX ELDER	125	8,729	6,776	0.78	25.15	28.42
CACHE	20	1,247	561	0.45	3.59	2.35
DAVIS	9	249	124	0.50	0.72	0.52
MORGAN	11	644	893	1.39	1.86	3.75
RICH	3	103	0	0.00	0.30	0.00
SUMMIT	3	187	20	0.11	0.54	0.09
WEBER	7	207	62	0.30	0.60	0.26
REGIONAL TOTALS	178	11,369	8,438	0.74	32.76	35.40
CENTRAL REGION						
JUAB	31	1,725	1,912	1.11	4.97	8.02
SALT LAKE	7	249	62	0.25	0.72	0.26
SANPETE	18	561	748	1.33	1.62	3.14
TOOELE	91	6,776	4,551	0.67	19.52	19.09
UTAH	86	5,258	3,554	0.68	15.15	14.91
WASATCH	4	187	145	0.78	0.54	0.61
REGIONAL TOTALS	237	14,757	10,974	0.74	42.52	46.03
SOUTHERN REGION						
BEAVER	3	103	166	1.60	0.30	0.70
GARFIELD	3	145	83	0.57	0.42	0.35
IRON	2	41	0	0.00	0.12	0.00
KANE	0	0	0	0.00	0.00	0.00
MILLARD	30	1,870	1,101	0.59	5.39	4.62
PIUTE	3	83	207	2.50	0.24	0.87
SEVIER	22	2,494	1,060	0.43	7.19	4.45
WASHINGTON	0	0	0	0.00	0.00	0.00
WAYNE	5	124	20	0.17	0.36	0.09
REGIONAL TOTALS	68	4,863	2,639	0.54	14.01	11.07
NORTHEASTERN REGION						
DAGGETT	0	0	0	0.00	0.00	0.00
DUCHESNE	16	1,434	748	0.52	4.13	3.14
UINTAH	13	748	415	0.56	2.16	1.74
REGIONAL TOTALS	29	2,182	1,163	0.53	6.29	4.88
SOUTHEASTERN REGION						
CARBON	4	145	41	0.29	0.42	0.17
EMERY	14	893	540	0.60	2.57	2.27
GRAND	7	498	41	0.08	1.44	0.17
SAN JUAN	0	0	0	0.00	0.00	0.00
REGIONAL TOTALS	25	1,538	623	0.41	4.43	2.62
UNKNOWN	0	0	0	0.00	0.00	0.00
STATE TOTALS	537	34,711	23,840	0.69	100.00	100.00

Total hunter trips from questionnaire returns

Table 3. Summary of chukars bagged per hunter-day by region and county, 1990-97.

Region and County	Year							
	1990	1991	1992	1993	1994	1995	1996	1997
Northern Region								
Box Elder	0.89	0.78	0.86	0.37	0.72	1.12	0.88	0.78
Cache	0.51	0.37	0.89	0.28	0.03	0.26	0.57	0.45
Davis	0.79	0.76	0.38	0.25	0.21	0.17	1.58	0.50
Morgan	0.71	0.54	0.41	0.20	1.19	0.00	2.80	1.39
Rich	1.67	0.32	0.33	0.17	0.00	0.00	1.33	0.00
Summit	2.14	0.14	0.33	0.36	0.67	0.00	1.00	0.11
Weber	0.73	0.84	0.66	0.62	0.14	0.48	0.43	0.30
REGIONAL TOTALS	**0.82**	**0.69**	**0.76**	**0.36**	**0.61**	**0.89**	**0.92**	**0.74**
Central Region								
Juab	0.73	0.87	0.77	0.50	0.94	0.58	0.54	1.11
Salt Lake	1.16	1.68	1.08	1.30	0.58	0.79	0.97	0.25
Sanpete	1.35	0.83	0.77	0.76	0.58	0.30	0.20	1.33
Tooele	0.77	0.70	0.76	0.41	0.65	0.58	0.83	0.67
Utah	0.67	0.79	0.65	0.53	0.84	0.62	0.64	0.68
Wasatch	0.67	0.50	0.32	1.64	0.43	0.33	0.02	0.78
REGIONAL TOTALS	**0.81**	**0.79**	**0.73**	**0.54**	**0.72**	**0.55**	**0.65**	**0.74**
Southern Region								
Beaver	0.42	0.67	0.28	0.48	0.04	0.33	2.00	1.60
Garfield	0.00	2.50	0.00	1.33	1.78	0.00	0.00	0.57
Iron	0.25	0.18	0.44	0.00	0.80	0.50	0.00	0.00
Kane	0.00	1.50	0.00	0.29	0.00	0.33	0.00	0.00
Millard	0.62	0.55	1.35	0.51	0.55	0.71	1.06	0.59
Piute	0.29	1.00	0.18	0.39	0.20	0.45	0.79	2.50
Sevier	0.51	0.72	0.67	0.48	0.38	0.27	0.51	0.43
Washington	0.00	0.00	0.00	1.82	0.00	1.00	0.00	0.00
Wayne	0.00	1.80	0.20	0.27	2.33	0.15	0.60	0.17
REGIONAL TOTALS	**0.45**	**0.68**	**0.73**	**0.53**	**0.43**	**0.36**	**0.65**	**0.54**
Northeastern Region								
Daggett	0.00	0.00	0.00	1.00	0.00	0.00	2.00	0.00
Duchesne	0.27	0.19	1.86	0.51	0.74	1.39	1.16	0.52
Uintah	0.09	0.79	0.75	0.38	0.00	1.47	0.83	0.56
REGIONAL TOTAL	**0.17**	**0.38**	**0.95**	**0.52**	**0.43**	**1.43**	**1.07**	**0.53**
Southeastern Region								
Carbon	0.16	0.46	1.25	0.56	0.80	0.71	0.80	0.29
Emery	0.50	0.43	0.88	0.41	0.63	0.96	0.36	0.60
Grand	0.56	0.38	3.40	1.61	1.83	1.29	0.00	0.08
San Juan	0.00	0.50	0.00	0.00	0.20	4.00	0.00	0.00
REGIONAL TOTALS	**0.39**	**0.44**	**1.24**	**1.14**	**0.97**	**1.07**	**0.41**	**0.41**
Unknown counties	0.00	0.00	0.20	1.06	0.00	0.87	0.63	0.00
STATE TOTALS	0.69	0.72	0.76	0.55	0.66	0.67	0.72	0.69

Table 4. Percentage distribution of chukar harvest by region and county, 1990-97.

Region and County	Year							
	1990	1991	1992	1993	1994	1995	1996	1997
Northern Region								
Box Elder	18.42	23.43	17.49	8.00	15.59	28.66	24.45	28.42
Cache	4.43	1.93	4.73	2.23	0.09	1.48	3.41	2.35
Davis	0.85	1.57	1.56	0.20	0.47	0.09	1.66	0.52
Morgan	0.93	1.36	0.93	0.61	2.35	0.00	4.89	3.75
Rich	1.17	0.64	0.19	0.10	0.00	0.00	0.70	0.00
Summit	1.17	0.14	0.06	0.91	0.19	0.00	0.17	0.09
Weber	1.48	1.93	1.31	2.63	0.19	1.11	0.87	0.26
REGIONAL TOTALS	**28.44**	**31.00**	**26.26**	**14.68**	**18.87**	**31.36**	**36.16**	**35.40**
Central Region								
Juab	5.13	8.57	6.97	5.57	4.41	5.47	2.45	8.02
Salt Lake	2.87	3.00	5.10	3.04	1.31	1.02	2.88	0.26
Sanpete	8.08	6.07	4.73	7.19	5.63	2.32	0.79	3.14
Tooele	28.21	15.29	17.67	14.17	17.28	11.78	16.33	19.09
Utah	10.26	16.86	15.99	10.93	20.09	9.83	11.79	14.91
Wasatch	0.16	0.93	0.37	2.33	0.28	0.19	0.09	0.61
REGIONAL TOTALS	**54.70**	**50.71**	**50.84**	**43.22**	**49.02**	**30.61**	**34.32**	**46.03**
Southern Region								
Beaver	2.18	3.00	0.44	1.11	0.09	1.86	0.17	0.70
Garfield	0.00	0.36	0.00	1.62	1.50	0.00	0.00	0.35
Iron	0.31	0.14	0.25	0.00	0.38	0.09	0.00	0.00
Kane	0.00	0.21	0.00	0.40	0.00	0.19	0.00	0.00
Millard	3.11	3.21	5.48	4.96	3.47	5.10	6.03	4.62
Piute	0.85	1.00	0.19	0.91	0.75	0.93	2.27	0.87
Sevier	4.74	5.79	7.47	9.31	6.95	5.19	6.64	4.45
Washington	0.00	0.00	0.00	2.02	0.00	0.09	0.00	0.00
Wayne	0.00	0.64	0.06	0.30	0.66	0.19	0.26	0.09
REGIONAL TOTALS	**11.19**	**14.36**	**13.88**	**20.65**	**13.80**	**13.64**	**15.37**	**11.07**
Northeastern Region								
Daggett	0.00	0.00	0.00	0.30	0.00	0.00	0.17	0.00
Duchesne	0.78	0.43	0.81	2.23	1.30	5.29	5.15	3.14
Uintah	0.16	0.79	1.49	0.30	0.00	5.19	1.75	1.74
REGIONAL TOTALS	**0.93**	**1.21**	**2.30**	**2.83**	**1.31**	**10.48**	**7.07**	**4.88**
Southeastern Region								
Carbon	0.62	0.86	1.87	0.91	3.38	0.93	2.10	0.17
Emery	3.73	1.14	2.68	1.52	5.26	6.86	2.97	2.27
Grand	0.39	0.36	2.12	12.55	8.26	4.17	1.57	0.17
San Juan	0.00	0.36	0.00	0.00	0.09	0.74	0.00	0.00
REGIONAL TOTALS	**4.74**	**2.70**	**6.66**	**14.98**	**17.00**	**12.71**	**6.64**	**2.62**
Unknown counties	0.00	0.00	0.06	3.64	0.00	1.21	0.44	0.00
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 5. Percentage distribution of chukar hunting pressure by region and county, 1990-97.

Region and County	Year							
	1990	1991	1992	1993	1994	1995	1996	1997
Northern Region								
Box Elder	14.18	21.53	15.42	12.02	14.18	17.29	19.90	28.42
Cache	5.94	3.73	4.03	4.40	1.80	3.81	4.32	2.35
Davis	0.75	1.48	3.13	0.45	1.49	0.37	0.75	0.52
Morgan	0.91	1.79	1.76	1.67	1.30	0.37	1.25	3.75
Rich	0.48	1.43	0.43	0.33	0.74	0.06	0.38	0.00
Summit	0.37	0.72	0.14	1.39	0.19	0.19	0.13	0.09
Weber	1.39	1.64	1.52	2.34	0.87	1.56	1.44	0.26
REGIONAL TOTALS	**24.02**	**32.33**	**26.4**	**22.59**	**20.56**	**23.66**	**28.16**	**35.40**
Central Region								
Juab	4.87	7.06	6.93	6.18	3.10	6.30	3.25	8.02
Salt Lake	1.71	1.28	3.61	1.28	1.49	0.87	2.13	0.26
Sanpete	4.12	5.27	4.70	5.18	6.44	5.24	2.75	3.14
Tooele	25.25	15.70	17.84	19.20	17.52	13.73	14.08	19.09
Utah	10.59	15.24	18.88	11.41	15.73	10.61	13.27	14.91
Wasatch	0.16	1.33	0.90	0.78	0.43	0.37	2.57	0.61
REGIONAL TOTALS	**46.71**	**45.88**	**52.85**	**44.02**	**44.71**	**37.14**	**38.05**	**46.03**
Southern Region								
Beaver	3.53	3.22	1.19	1.28	4.12	3.75	0.06	0.70
Garfield	0.59	0.10	0.28	0.67	0.56	1.00	0.06	0.35
Iron	0.86	0.56	0.43	0.11	0.31	0.12	0.50	0.00
Kane	0.05	0.10	0.00	0.78	0.06	0.37	0.00	0.00
Millard	3.48	4.19	3.08	5.34	4.15	4.81	4.07	4.62
Piute	2.03	0.72	0.81	1.28	2.48	1.37	2.07	0.87
Sevier	6.37	5.73	8.49	10.57	12.20	13.05	9.39	4.45
Washington	0.27	0.20	0.05	0.61	0.00	0.06	0.50	0.00
Wayne	0.05	0.26	0.24	0.61	0.19	0.81	0.31	0.09
REGIONAL TOTALS	**17.23**	**15.09**	**14.56**	**21.26**	**21.36**	**25.34**	**16.96**	**11.07**
Northeastern Region								
Daggett	0.59	0.00	0.00	0.17	0.00	0.00	0.06	0.00
Duchesne	1.98	1.59	0.33	2.39	1.18	2.56	3.19	3.14
Uintah	1.18	0.72	1.52	0.45	0.62	2.37	1.50	1.74
REGIONAL TOTALS	**3.75**	**2.30**	**1.85**	**3.01**	**1.80**	**4.93**	**4.76**	**4.88**
Southeastern Region								
Carbon	2.68	1.33	1.14	0.89	2.79	0.87	1.88	0.17
Emery	5.14	1.89	2.32	2.06	5.51	4.81	5.88	2.27
Grand	0.48	0.66	0.47	4.29	2.97	2.18	3.75	0.17
San Juan	0.00	0.51	0.14	0.00	0.31	0.12	0.06	0.00
REGIONAL TOTALS	**8.29**	**4.40**	**4.08**	**7.23**	**11.58**	**7.99**	**11.58**	**2.62**
Unknown counties	0.00	0.00	0.24	1.89	0.00	0.94	0.50	0.00
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 6. Statewide summary of chukar partridge harvest statistics, 1958-97.

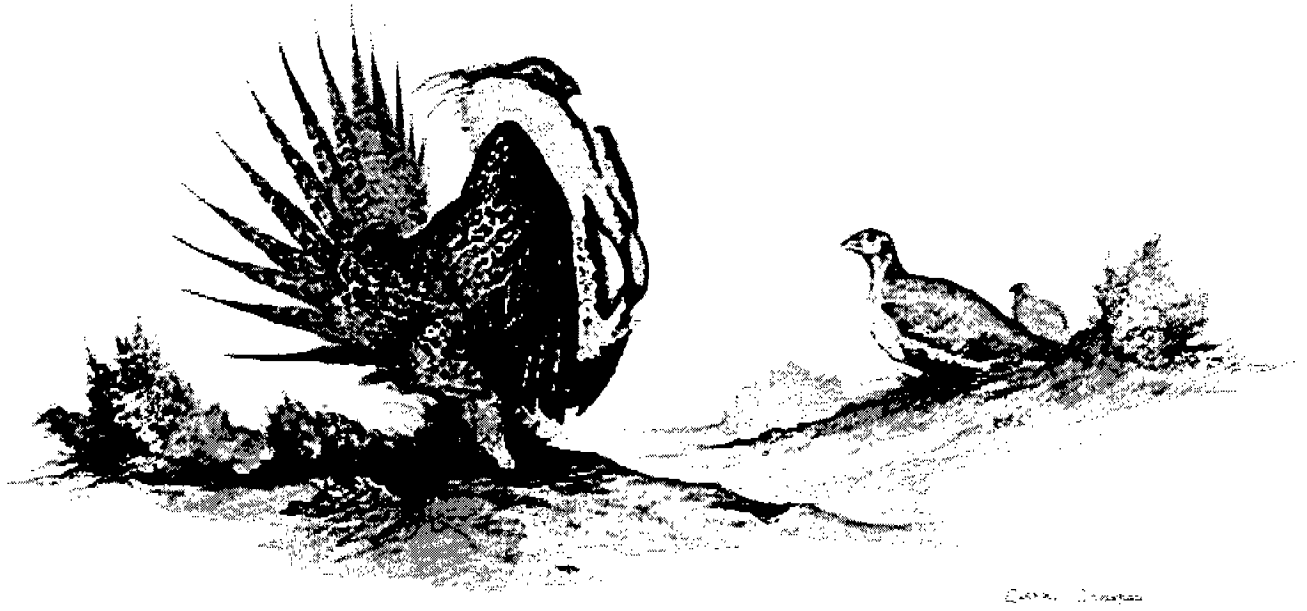
Year	Total Hunters	Total Harvest	Hunter-Days Afield	Chukars Per Hunter-Day	Chukars Per Hunter
1958	11,124	19,578	25,100	0.78	1.76
1959	11,154	8,700	26,364	0.33	0.78
1960	13,252	21,733	30,610	0.71	1.64
1961	14,046	20,821	35,675	0.58	1.48
1962	11,638	33,500	35,010	0.95	2.88
1963	14,532	42,806	40,824	1.05	2.95
1964	16,090	42,974	39,971	1.08	2.67
1965	16,431	35,335	45,067	0.78	2.15
1966	17,133	61,370	54,448	1.13	3.58
1967	17,485	48,906	50,671	0.97	2.80
1968	20,744	73,218	61,402	1.19	3.53
1969	22,529	80,917	71,674	1.13	3.59
1970	18,013	56,053	49,911	1.12	3.11
1971	17,917	61,151	55,378	1.10	3.41
1972	16,685	36,925	46,502	0.79	2.21
1973	13,888	48,135	50,677	0.95	3.47
1974	16,412	44,658	48,856	0.91	2.72
1975	16,156	41,151	51,083	0.81	2.57
1976	14,171	43,726	47,143	0.93	3.09
1977	12,691	34,155	38,873	0.88	2.69
1978	16,291	65,747	54,239	1.21	4.04
1979	15,210	51,918	42,254	1.23	3.41
1980	15,100	51,511	47,778	1.08	3.41
1981	12,907	44,983	36,662	1.23	3.49
1982	11,326	24,460	32,691	0.75	2.16
1983	10,418	29,649	31,904	0.93	2.85
1984	9,846	20,179	30,715	0.66	2.05
1985	7,930	20,938	24,346	0.86	2.64
1986	9,397	25,346	31,672	0.80	2.70
1987	11,276	32,848	39,099	0.84	2.91
1988	11,237	32,057	40,088	0.80	2.85
1989	10,910	27,628	40,384	0.68	2.53
1990	11,195	26,486	38,463	0.69	2.37
1991	10,577	24,355	34,010	0.72	2.30
1992	11,125	28,599	37,463	0.76	2.57
1993	10,128	18,774	34,147	0.55	1.85
1994	8,455	18,721	28,389	0.66	2.21
1995	9,097	20,954	31,140	0.67	2.30
1996	10,197	26,594	37,116	0.72	2.61
1997	9,665	23,840	34,711	0.69	2.47
Totals (1958-97)	534,378	1,471,399	1,632,510	--	--
Averages (1958-96)	13,454	37,117	40,969	0.87	2.68

Table 7. Chukar field bag check summary, 1997.

Region and County	All Hunts					Complete Hunts					
	Total Parties	Total Hunters	Total Hours	Total Birds	Birds/ 100 Hr	Complete Hunts	Total Hunters	Total Hours	Total Birds	Birds/ 100 Hr	Birds/ Hunter
Northern Region											
Box Elder	--	--	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Central Region											
Juab	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--
Tooele	39	92	300	37	12	23	51	191.5	29	15	0.57
Utah	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	39	92	300	37	12	23	51	191.5	29	15	0.57
Southern Region											
Beaver	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Northeastern Region											
Daggett	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Southeastern Region											
Carbon	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
STATE TOTALS	39	92	300	37	12	23	51	191.5	29	15	0.57

Table 8. Chukar hunter success trend as determined by field bag check, 1991-97.

Region and County	1992		1993		1994		1995		1996		1997	
	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter
Northern Region												
Box Elder	--	--	--	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
Central Region												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	15	0.57
Wasatch	--	--	--	--	--	--	18	0.75	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	18	0.75	--	--	15	0.57
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
Southeastern Region												
Carbon	--	--	--	--	--	--	--	--	--	--	--	--
Emery	59	1.74	--	--	--	--	66	2.73	--	--	--	--
Grand	--	--	41	2.36	102	3.14	33	1.79	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	59	1.74	41	2.36	102	3.14	52	2.38	--	--	--	--
STATE TOTALS	59	1.74	41	2.36	102	3.14	46	2.08	--	--	15	0.57



Strutting ground count surveys indicated a 10 percent increase in the average male grouse attendance from 1996.

Brood surveys showed decreased production per 100 adults throughout the state. Birds observed per 100 hours decreased 3 percent from 1996, but was 15 percent above average.

Harvest was 58 percent below the long-term average. Hunter numbers decreased 25 percent in 1997 and remained 43 percent below the long-term average.

Age ratios derived from wings indicated a 66 percent increase in young per 100 adults and an 88 percent increase in young per 100 adult hens.

Since 1959, numerous new strutting grounds have been discovered throughout Utah. However, average number of male grouse per ground has declined drastically. A decline in the average number of grouse per ground seems to be representative of Utah sage grouse populations.

Recent DNA and physiological studies indicate that two distinct species of sage grouse exist in Utah. The smaller species is located south and east of the Colorado River and is known as the Gunnison sage grouse.

Declines in sage grouse populations are attributed to loss and changes in sage brush habitats throughout the West. Spraying, urban and industrial development, burning and overgrazing by domestic livestock have altered critical sage grouse habitat.

Strutting Ground Counts

The status of the sage grouse breeding population for 1997, as indicated by strutting ground counts, is shown in Table 1 and Figure 1 of this section. Results of this survey for 1997 compared to 1996 and the 1959-96 average follow:

	1997	Percent change from 1996	Percent change from Average
Number of grounds counted	148	+17	+64
Total male grouse counted	1,641	+24	+1
Average male grouse per ground	11	+10	-46
Percent change from previous year (comparable grounds)	--	--	--

The numbers of male grouse observed increased 24 percent statewide and average number of males per ground increased 10 percent.

Brood Counts

Results of the summer inventory survey for 1997 are found in Table 2. Long-term trends of young per adult ratios, mean brood size and sage grouse observed per 100 hours are shown in Tables 3-5. Indices for 1997 are compared to 1996 and the previous 10-year (1987-96) average as follows:

	1997	Percent change from 1996	Percent change from Average
Total sage grouse counted	975	+35	+42
Young per 100 adults	165	-16	+2
Mean brood size	4.43	-15	0
Sage grouse observed per 100 hours	347	-3	+15
Total hours effort	281	+38	+15

The effort devoted to sage grouse brood counts was 15 percent above average, and the total number of grouse counted was 42 percent above average.

Total sage grouse counted increased 35 percent from 1996, while production of young per 100 adults decreased 16 percent. The average brood size was the same as the 10-year average.

Figure 1. Statewide trends of average sage grouse males per lek, 1959-97

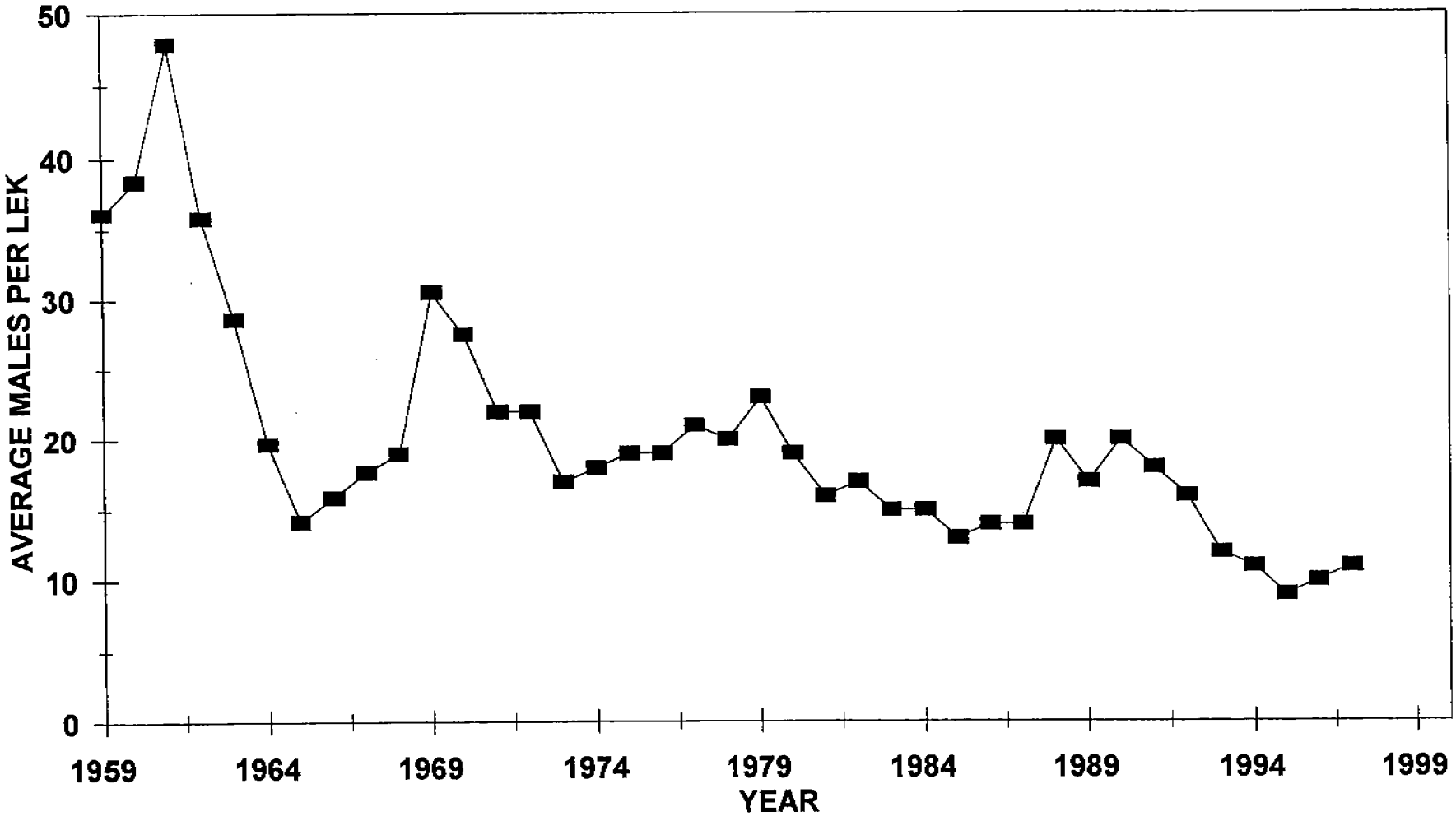


Figure 2. Statewide trends of sage grouse harvest statistics, 1963-97.

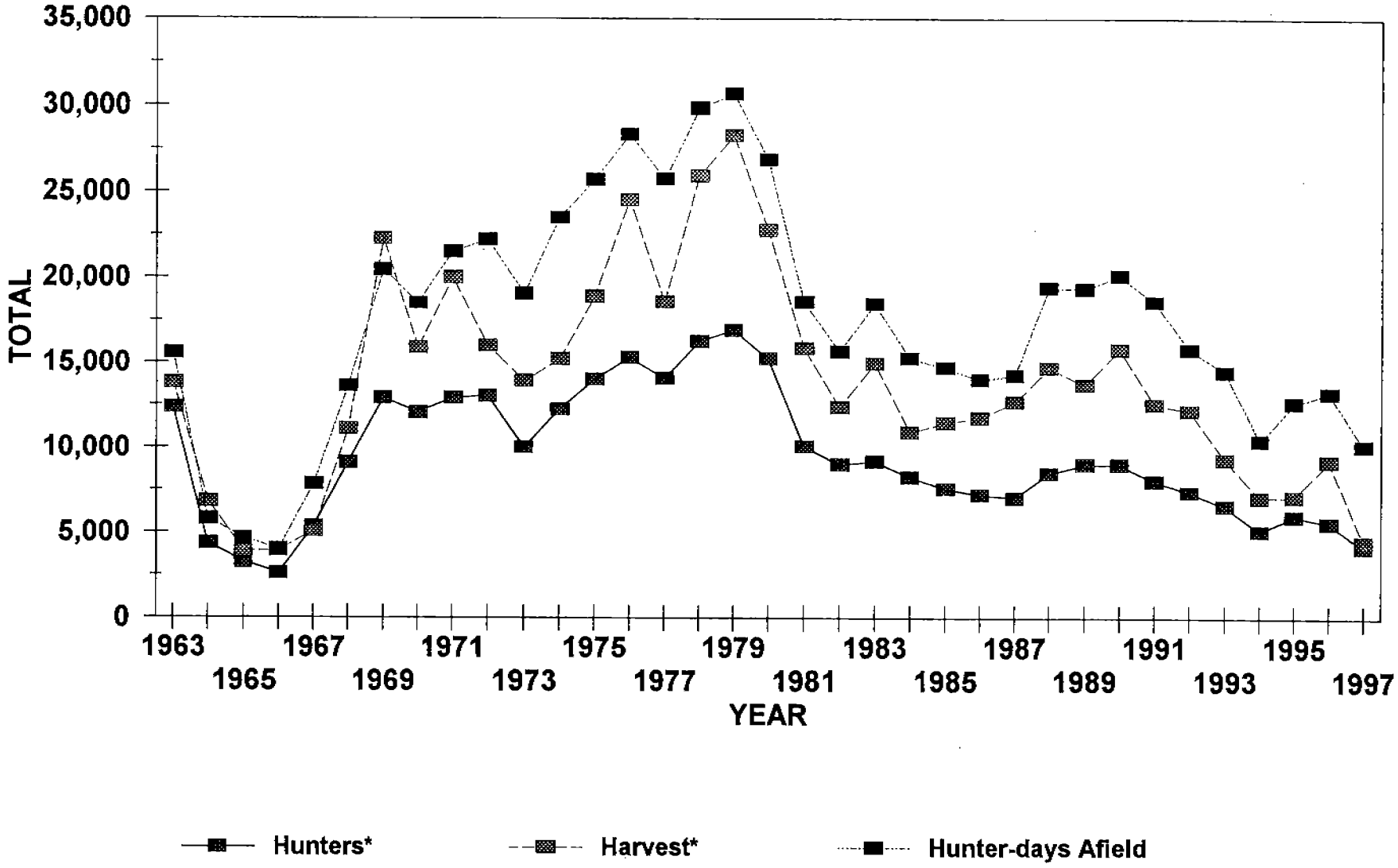
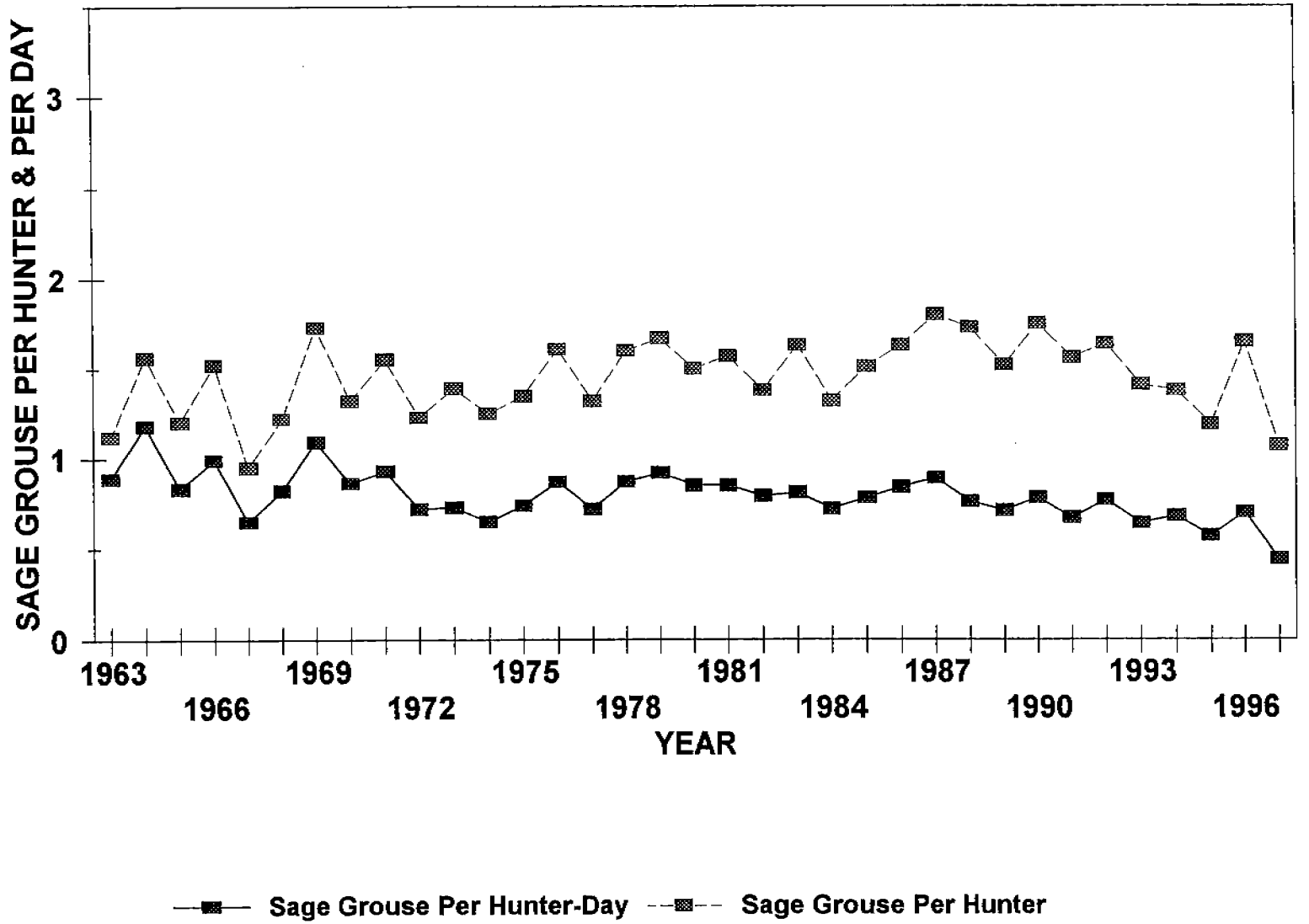


Figure 3. Statewide trends of sage grouse hunter success rates, 1963-97.



Harvest

Hunter Questionnaire

Results of the 1997 hunter questionnaire are shown in Table 6. Long-term trends of sage grouse bagged per hunter-day, percent of harvest and percent of pressure (hunter-days) by county are found in Tables 7-9 and total statewide harvest statistics in Table 10. The results of the 1997 hunting season compared to 1996 and the previous 47-year average follow:

	1997	Percent change from 1996	Percent change from Average
Sage grouse hunters	4,178	-25	-43
Sage grouse harvested	4,489	-51	-58
Hunter-days afield	10,101	-24	-23
Sage grouse per hunter-day	0.44	-37	-29
Sage grouse per hunter	1.07	-35	-41

Sage grouse per hunter-day success rate decreased 37 percent in 1997. Total statewide harvest decreased 51 percent, and there was a 25 percent decrease in total sage grouse hunters.

Long-term sage grouse harvest trends are shown in Figures 2 and 3.

Field Bag Checks

A summary of field bag check data for 1997 is shown in Table 11. Hunter success trends determined via this method are shown in Table 12. Results of the 1997 survey compared to 1996 and the 10-year (1986-96) average follow:

	1997	Percent change from 1996	Percent change from Average
Total hunters checked	231	-31	-61
Total hours hunted	924	-31	-70
Sage grouse per hunter (complete hunts)	0.32	-40	-64
Sage grouse bagged per 100 hours	8	-38	-58
Average hours per hunter-day (complete hunts)	4.00	+1	-19
Hours hunted per grouse bagged (complete hunts)	12.49	+65	+102

Hunter success rates from field bag checks showed decreased success on the opening weekend of 1997. Sage grouse bagged per 100 hours decreased 38 percent. Average hours per hunter day increased 1 percent from 1996. Average hours per grouse bagged increased 65 percent.

Sex and Age Composition of the Harvest

A summary of the sex and age composition of harvested sage grouse in 1997 is found in Table 13 and the trend from 1993-97 in Table 14.

Following are data derived from wing surveys in 1997 compared to 1996 and the 10-year (1987-96) average:

	1997	Percent change from 1996	Percent change from Average
Sample size	168	-28	-78
Percent males	39	+5	+1
Percent females	61	-3	0
Young per 100 adults	300	+66	+127
Young per 100 hens (adult)	420	+88	+149
Percent successfully nesting females			
Adults	73		
Yearlings	67		
All	70		

Analysis of wings collected at checking stations during the 1997 season indicates that statewide production was up 88 percent compared to 1996, and was 149 percent above the long-term average.

Table 1. Summary of sage grouse strutting ground counts by region and county, 1987-97.

Region and County	Year										
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Northern Region											
Box Elder											
No. Strutting Grounds Counted	18	15	11	20	16	13	8	14	4	11	33
Total Male Grouse Counted	314	419	343	327	--	307	250	220	134	209	345
County Average (all strutting grounds)	18	28	31	23	21	24	17	16	34	19	10
% Change From Previous Year - Comparable Grounds	-12	33	-3	-17	-11	8	-7	-23	-14	-24	2
Cache											
No. Strutting Grounds Counted	1	1	2	--	--	3	--	2	2	2	1
Total Male Grouse Counted	0	9	15	--	--	27	--	9	9	9	23
County Average (all strutting grounds)	0	9	8	--	--	9	--	5	5	5	23
% Change From Previous Year - Comparable Grounds	--	100	40	--	--	--	--	--	--	--	283
Morgan											
No. Strutting Grounds Counted	2	1	--	--	--	1	--	--	1	1	1
Total Male Grouse Counted	26	19	--	--	--	39	--	--	24	25	34
County Average (all strutting grounds)	13	19	--	--	--	39	--	--	24	25	34
% Change From Previous Year - Comparable Grounds	18	-21	--	--	--	--	--	--	60	5	36
Rich											
No. Strutting Grounds Counted	12	3	6	19	22	14	14	29	26	23	22
Total Male Grouse Counted	431	319	281	863	710	372	314	325	273	278	339
County Average (all strutting grounds)	36	53	47	41	32	27	19	11	11	12	15
% Change From Previous Year - Comparable Grounds	53	-10	5	-7	-18	-38	-51	-46	--	9	25
Summit											
No. Strutting Grounds Counted	7	10	--	--	--	3	--	1	8	--	--
Total Male Grouse Counted	25	17	--	--	--	0	--	15	--	--	--
County Average (all strutting grounds)	4	2	--	--	--	--	--	15	--	--	--
% Change From Previous Year - Comparable Grounds	-65	-32	--	--	--	--	--	-29	--	--	--
REGIONAL TOTALS											
No. Strutting Grounds Counted	40	33	19	39	38	34	22	46	41	37	57
Total Male Grouse Counted	806	783	639	1,190	710	745	564	569	440	521	741
Average Grouse Per Ground (all strutting grounds)	20	24	34	31	27	26	18	14	18	15	21
% Change From Previous Year - Comparable Grounds	16	11	5	--	-15	-15	-29	-33	--	--	--

Table 1 (continued)

Region and County	Year										
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Central Region											
Juab											
No. Strutting Grounds Counted	1	1	1	1	1	3	3	1	1	--	1
Total Male Grouse Counted	9	14	11	4	15	5	0	0	1	--	0
County Average (all strutting grounds)	9	14	11	4	15	2	0	0	1	--	0
% Change From Previous Year - Comparable Grounds	0	56	-21	-63	--	-100	-100	0	100	--	--
Sanpete											
No. Strutting Grounds Counted	2	2	2	2	2	--	2	--	--	--	--
Total Male Grouse Counted	0	0	0	0	0	--	0	--	--	--	--
County Average (all strutting grounds)	--	0	0	0	--	--	0	--	--	--	--
% Change From Previous Year - Comparable Grounds	0	0	0	0	--	--	0	--	--	--	--
Tooele											
No. Strutting Grounds Counted	5	5	5	5	5	4	4	4	4	3	4
Total Male Grouse Counted	96	89	77	91	82	100	11	12	12	17	36
County Average (all strutting grounds)	19	18	15	18	16	25	5	3	3	6	9
% Change From Previous Year - Comparable Grounds	17	-5	-17	20	-15	32	-87	-40	0	100	6
Wasatch											
No. Strutting Grounds Counted	2	2	2	2	2	2	2	2	2	2	2
Total Male Grouse Counted	54	52	44	51	11	49	45	24	24	34	46
County Average (all strutting grounds)	27	26	22	26	6	24	37	12	12	17	23
% Change From Previous Year - Comparable Grounds	-54	-4	-19	18	-75	300	-9	-12	0	42	35
REGIONAL TOTALS											
No. Strutting Grounds Counted	7	10	10	10	10	9	11	7	7	5	7
Total Male Grouse Counted	150	155	132	146	108	154	56	36	37	51	82
Average Grouse Per Ground (all strutting grounds)	17	16	13	15	12	17	14	5	5	8	11
% Change From Previous Year - Comparable Grounds	-25	-3	-16	11	-45	77	-65	16	--	--	--

Table 1 (continued)

Region and County	Year										
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Southern Region											
Beaver											
No. Strutting Grounds Counted	4	3	5	2	--	3	1	4	7	7	4
Total Male Grouse Counted	52	46	71	33	--	68	49	57	57	79	32
County Average (all strutting grounds)	13	15	14	16	41	19	49	14	8	11	8
% Change From Previous Year - Comparable Grounds	-5	--	-7	--	--	-54	47	--	-7	--	-53
Garfield											
No. Strutting Grounds Counted	9	8	8	10	--	9	6	11	11	11	12
Total Male Grouse Counted	175	251	126	244	--	211	77	145	139	89	126
County Average (all strutting grounds)	19	31	16	24	35	23	11	13	13	8	11
% Change From Previous Year - Comparable Grounds	0	24	-50	--	--	-23	-50	78	0	--	36
Iron											
No. Strutting Grounds Counted	4	6	6	3	--	2	1	3	2	3	3
Total Male Grouse Counted	64	111	127	50	--	43	41	39	26	17	34
County Average (all strutting grounds)	16	19	21	20	52	21	41	13	13	6	11
% Change From Previous Year - Comparable Grounds	-11	-13	14	--	--	-36	24	0	-14	--	-10
Kane											
No. Strutting Grounds Counted	--	--	2	--	--	3	2	2	3	3	3
Total Male Grouse Counted	--	--	41	--	--	30	11	1	2	0	4
County Average (all strutting grounds)	--	--	21	--	14	10	6	1	1	0	1
% Change From Previous Year - Comparable Grounds	--	--	--	--	--	-28	-61	0	0	--	--
Millard											
No. Strutting Grounds Counted	--	--	--	--	--	--	--	--	--	--	--
Total Male Grouse Counted	--	--	--	--	--	--	--	--	--	--	--
County Average (all strutting grounds)	--	--	--	--	--	--	--	--	--	--	--
% Change From Previous Year - Comparable Grounds	--	--	--	--	--	--	--	--	--	--	--
Piute											
No. Strutting Grounds Counted	--	--	--	--	--	--	--	--	--	1	1
Total Male Grouse Counted	--	--	--	--	--	--	--	--	--	29	34
County Average (all strutting grounds)	--	--	--	--	--	--	--	--	--	29	34
% Change From Previous Year - Comparable Grounds	--	--	--	--	--	--	--	--	--	--	--
Sevier											
No. Strutting Grounds Counted	--	2	--	--	1	3	--	1	1	2	1
Total Male Grouse Counted	--	0	--	--	20	22	--	11	12	34	15
County Average (all strutting grounds)	--	--	--	--	20	7	--	11	12	17	15
% Change From Previous Year - Comparable Grounds	--	--	--	--	--	--	--	1,100	9	--	--
Wayne											
No. Strutting Grounds Counted	13	13	13	10	16	12	--	8	11	9	12
Total Male Grouse Counted	182	326	268	259	367	289	--	163	206	193	272
County Average (all strutting grounds)	14	25	21	26	23	22	--	20	19	21	23
% Change From Previous Year - Comparable Grounds	79	-18	--	--	--	--	--	-8	11	--	--
REGIONAL TOTALS											
No. Strutting Grounds Counted	30	32	34	25	17	32	10	29	35	36	36
Total Male Grouse Counted	473	734	633	596	387	663	178	416	442	441	517
Average Grouse Per Ground (all strutting grounds)	16	23	19	24	31	17	18	12	11	12	14
% Change From Previous Year - Comparable Grounds	13	48	-18	--	--	-35	-10	234	--	--	--

Table 1 (continued)

Region and County	Year										
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Northeastern Region											
Daggett											
No. Strutting Grounds Counted	6	6	7	6	--	6	3	3	5	6	6
Total Male Grouse Counted	26	46	25	42	--	17	14	11	25	32	23
County Average (all strutting grounds)	4	8	4	7	--	3	5	4	5	5	4
% Change From Previous Year - Comparable Grounds	16	77	-24	24	--	--	-7	-21	-18	28	-28
Duchesne											
No. Strutting Grounds Counted	14	7	11	15	--	16	15	9	5	5	7
Total Male Grouse Counted	104	9	76	173	--	129	87	37	40	22	32
County Average (all strutting grounds)	7	1	7	12	--	8	6	4	8	4	5
% Change From Previous Year - Comparable Grounds	-12	-83	167	22	--	--	-10	-51	14	-27	5
Grand											
No. Strutting Grounds Counted	--	2	--	--	--	--	--	1	--	--	--
Total Male Grouse Counted	--	5	--	--	--	--	--	0	--	--	--
County Average (all strutting grounds)	--	3	--	--	--	--	--	--	--	--	--
% Change From Previous Year - Comparable Grounds	--	0	--	--	--	--	--	--	--	--	--
Uintah											
No. Strutting Grounds Counted	14	22	20	20	--	22	22	18	29	24	21
Total Male Grouse Counted	159	468	266	321	--	287	173	208	197	268	278
County Average (all strutting grounds)	11	21	13	16	--	13	8	12	7	11	13
% Change From Previous Year - Comparable Grounds	-26	66	-45	0	--	--	-34	-4	-30	32	-3
Wasatch											
No. Strutting Grounds Counted	--	2	2	--	--	--	--	2	3	1	1
Total Male Grouse Counted	--	22	22	--	--	--	--	8	9	5	5
County Average (all strutting grounds)	--	11	11	--	--	--	--	4	3	5	5
% Change From Previous Year - Comparable Grounds	--	120	0	--	--	--	--	-11	13	-44	0
REGIONAL TOTALS											
No. Strutting Grounds Counted	34	39	40	41	0	44	40	33	42	36	35
Total Male Grouse Counted	289	550	389	536	0	433	274	264	271	327	338
Average Grouse Per Ground (all strutting grounds)	9	15	10	13	--	5	6	6	7	9	10
% Change From Previous Year - Comparable Grounds	-18	37	-37	9	--	--	-27	-18	-22	22	--

Table 1 (continued)

Region and County	Year										
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Southeastern Region											
Carbon											
No. Strutting Grounds Counted	7	10	10	9	8	8	3	7	--	8	4
Total Male Grouse Counted	55	196	181	146	103	40	14	3	--	26	46
County Average (all strutting grounds)	8	20	18	16	13	5	5	0	--	3	12
% Change From Previous Year - Comparable Grounds	-27	142	-8	-38	-11	-61	-46	-79	--	--	--
Emery											
No. Strutting Grounds Counted	2	2	2	2	2	2	3	2	2	2	2
Total Male Grouse Counted	10	12	28	5	7	7	3	5	0	0	0
County Average (all strutting grounds)	5	6	14	3	4	4	1	3	0	0	0
% Change From Previous Year - Comparable Grounds	-18	20	167	-82	40	0	-57	67	-250	0	--
San Juan											
No. Strutting Grounds Counted	4	4	4	4	4	4	4	4	4	4	4
Total Male Grouse Counted	35	32	39	41	32	40	44	41	40	29	26
County Average (all strutting grounds)	9	8	10	10	8	10	11	10	10	7	7
% Change From Previous Year - Comparable Grounds	28	-9	22	5	-22	25	10	-7	-2	-27	--
REGIONAL TOTALS											
No. Strutting Grounds Counted	13	16	16	15	14	14	10	13	6	14	10
Total Male Grouse Counted	100	240	248	192	142	87	61	49	40	55	72
Average Grouse Per Ground (all strutting grounds)	8	15	16	13	10	6	6	4	7	4	7
% Change From Previous Year - Comparable Grounds	0	74	3	-35	2	-12	-31	-6	--	--	--
STATE TOTALS											
No. Strutting Grounds Counted	126	137	119	130	79	133	93	128	131	128	145
Total Male Grouse Counted	1,818	2,734	2,041	2,660	1,347	2,082	1,133	1,334	1,230	1,395	1,750
Average Grouse Per Ground (all strutting grounds)	14	20	17	20	17	16	12	10	9	11	12
% Change From Previous Year - Comparable Grounds	2	51	14	-2	-11	3	-32	39	--	--	--

Table 2. Sage grouse summer inventory, 1997.

Region and County	Distinct Broods			Mean	Mixed Young & Adults		Adults w/o	Total	Total	Total	Young/	Vehicle	Hours of Effort				Birds/
	#	Adults	Young	Brood	Adults	Young	Young	Adults	Young	Grouse	100 Adults	Miles	Vehicle	Horse	Walk	Total	100 Hr
Northern Region																	
Box Elder	9	9	24	2.67	10	22	7	26	46	72	177	10	3	6	15	24	300
Cache	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rich	27	27	107	3.96	--	--	80	107	107	214	129	152	--	--	--	14	1,529
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	36	36	131	3.64	10	22	87	133	153	286	115	162	3	6	15	38	753
Central Region																	
Juab	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Southern Region										--							
Beaver	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	22	22	102	4.64	22	90	132	176	192	368	109	180	45	101	--	146	252
REGIONAL TOTALS	22	22	102	4.64	22	90	132	176	192	368	109	180	45	101	--	146	252
Northeastern Region																	
Daggett	1	1	2	2.00	0	0	0	1	2	3	200	25	4	0	0	4	86
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	25	25	137	5.48	33	123	22	80	260	340	325	921	47	24	37	108	316
REGIONAL TOTALS	26	26	139	5.35	33	123	--	59	262	321	444	946	50	24	37	111	289
Southeastern Region																	
Carbon	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STATE TOTALS	84	84	372	4.43	65	235	219	368	607	975	165	1,288	98	131	52	281	347

Table 3. Trend of sage grouse young per 100 adults, 1987-97.

Region and County	Year											Average
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1987-96
Northern Region												
Box Elder	94	108	167	267	161	143	92	94	--	48	177	
Cache	--	--	--	500	--	--	--	--	--	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	500	--	117	--	--	--	--	--	--	--	--	
Rich	116	153	--	100	67	125	217	433	41	222	129	
Summit	50	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	115	135	156	235	93	132	133	145	40	175	115	136
Central Region												
Juab	--	380	250	196	--	450	450	--	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	--	--	--	--	--	--	--	--	--	--	
Tooele	207	100	194	110	287	300	300	156	--	--	--	
Utah	--	150	--	--	1,200	--	--	--	--	--	--	
Wasatch	209	300	--	667	--	129	350	--	--	--	--	
REGIONAL TOTALS	209	135	177	166	344	148	357	156	--	--	--	211
Southern Region												
Beaver	35	--	--	--	--	--	--	--	--	--	--	
Garfield	144	144	40	91	129	--	--	--	--	--	--	
Iron	198	146	155	264	100	--	--	--	--	--	--	
Kane	400	--	--	--	--	--	--	--	--	--	--	
Millard	--	--	--	--	--	--	--	--	--	--	--	
Piute	38	--	--	--	--	--	--	--	--	--	--	
Sevier	--	--	525	--	500	--	--	--	--	--	--	
Washington	--	--	--	--	--	--	--	--	--	--	--	
Wayne	455	86	--	168	478	43	--	--	--	--	109	
REGIONAL TOTALS	216	127	135	154	128	40	--	--	--	129	109	133
Northeastern Region												
Daggett	124	181	433	533	650	190	--	600	263	244	200	
Duchesne	137	288	217	600	160	--	260	--	--	--	--	
Uintah	192	164	148	352	114	278	500	263	192	300	325	
REGIONAL TOTALS	159	172	155	374	161	246	380	532	418	332	444	293
Southeastern Region												
Carbon	150	--	56	33	200	33	200	--	--	--	--	
Emery	--	--	--	--	--	--	--	--	--	--	--	
Grand	--	--	--	--	--	31	--	50	--	--	--	
San Juan	--	200	50	50	200	50	--	--	--	--	--	
REGIONAL TOTALS	150	200	55	88	160	34	200	50	--	--	--	117
STATE TOTALS	160	145	147	183	122	95	209	244	122	196	165	162

Table 4. Trend of average brood size for sage grouse, 1987-97.

Region and County	Year											Average
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1987-96
Northern Region												
Box Elder	3.88	33.80	3.80	4.25	3.71	4.17	3.67	5.00	--	6.00	2.67	
Cache	--	--	--	5.00	--	--	--	--	--	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	5.00	--	7.00	--	--	--	--	--	--	--	--	
Rich	5.00	4.27	--	2.00	3.00	4.54	2.40	4.33	5.33	5.19	3.96	
Summit	5.00	4.00	--	--	--	--	--	--	--	--	--	
Weber	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	4.82	4.17	4.30	3.67	3.36	4.36	3.09	4.50	5.33	5.26	3.64	4.29
Central Region												
Juab	--	6.33	4.00	4.75	--	--	--	--	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	--	--	--	--	--	--	--	--	--	--	
Tooele	3.60	3.50	3.00	3.13	3.83	3.00	3.00	4.00	--	--	--	
Utah	--	--	--	--	12.00	--	--	--	--	--	--	
Wasatch	6.94	6.00	--	6.67	--	5.50	7.00	--	--	--	--	
REGIONAL TOTALS	5.42	4.29	3.40	4.27	5.00	4.67	4.00	4.00	--	--	--	4.38
Southern Region												
Beaver	5.00	--	--	--	--	--	--	--	--	--	--	
Garfield	4.00	4.60	--	4.00	6.00	--	--	--	--	--	--	
Iron	4.64	3.67	4.66	6.00	5.00	--	--	--	--	--	--	
Kane	4.00	--	--	--	--	--	--	--	--	--	--	
Millard	--	--	--	--	--	--	--	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	--	7.00	--	--	--	--	--	--	--	--	--	
Washington	--	--	--	--	--	--	--	--	--	--	--	
Wayne	6.14	6.29	--	4.30	5.00	3.82	--	--	--	--	4.64	
REGIONAL TOTALS	4.89	4.89	4.66	4.82	5.60	3.82	--	--	--	4.80	4.64	4.78
Northeastern Region												
Daggett	4.00	4.45	4.30	6.00	2.00	6.00	--	6.00	4.20	3.67	2.00	
Duchesne	3.54	3.60	2.17	6.00	4.00	--	2.00	--	--	--	--	
Uintah	5.55	4.05	5.15	5.60	2.00	4.75	5.00	5.25	4.17	5.86	5.48	
REGIONAL TOTALS	4.59	4.09	4.58	5.63	2.57	4.89	4.50	5.32	4.18	5.20	5.35	4.56
Southeastern Region												
Carbon	1.50	--	4.50	--	6.00	2.67	4.00	--	--	--	--	
Emery	--	--	--	--	--	--	--	--	--	--	--	
Grand	--	--	--	--	--	4.00	--	2.00	--	--	--	
San Juan	--	--	2.00	--	2.00	2.00	--	--	--	--	--	
REGIONAL TOTALS	1.50	--	3.67	--	4.00	2.80	4.00	2.00	--	--	--	4.07
STATE TOTALS	4.86	4.29	4.37	4.71	3.70	4.21	3.68	4.86	4.43	5.19	4.43	4.43

Table 5. Trend of sage grouse observed per 100 hours, 1987-97.

Region and County	Year											Average
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1987-96
Northern Region												
Box Elder	475	694	431	303	102	146	118	413	4	--	300	
Cache	0	3	--	126	--	--	--	--	--	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	19	--	100	--	--	--	--	--	--	--	--	
Rich	364	287	--	41	304	261	89	--	73	474	1,529	
Summit	480	300	--	--	--	--	--	--	--	--	--	
Weber	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	251	271	64	78	155	197	103	613	57	554	753	234
Central Region												
Juab	--	150	311	323	--	367	367	--	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	--	--	--	--	--	--	--	--	--	--	
Tooele	742	150	252	150	414	100	133	263	--	--	--	
Utah	--	125			1,300	--	--	--	--	--	--	
Wasatch	792	27	19	209	--	254	45	--	--	--	--	
REGIONAL TOTALS	776	118	154	200	338	248	100	263	--	--	--	275
Southern Region												
Beaver	575	--	--		--	--	--	--	--	--	--	
Garfield	275	452	207	661	320	--	--	--	--	--	--	
Iron	1,331	1,517	1,000	589	400	--	--	--	--	--	--	
Kane	500	--	--	--	--	--	--	--	--	--	--	
Millard	--	--	--	--	--	--	--	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	--	417	--	--	150	829	--	--	--	--	--	
Washington	--	--	--	--	--	--	--	--	--	--	--	
Wayne	793	542	--	900	511	411	--	--	--	--	252	
REGIONAL TOTALS	732	574	705	781	314	402	--	--	--	234	252	535
Northeastern Region												
Daggett	492	474	168	585	1,000	580	--	1,400	829	326	86	
Duchesne	382	141	123	350	81	--	900	--	--	--	--	
Uintah	642	830	1,191	566	1,500	523	3,000	636	388	224	316	
REGIONAL TOTALS	509	589	741	533	356	539	1,600	1,463	429	226	289	698
Southeastern Region												
Carbon	28	--	125	685	90	377	377	--	--	--	--	
Emery	--	--	--	--	--	--	--	--	--	--	--	
Grand	--	--	--	--	--	567	--	240	--	--	--	
San Juan	--	--	150	120	100	300	--	--	--	--	--	
REGIONAL TOTALS	28	--	129	386	100	239	26	80	--	--	--	209
STATE TOTALS	415	347	288	279	273	272	122	572	102	356	347	303

Table 6. Summary of sage grouse hunter success and distribution of harvest and hunter pressure by region and county, 1997.

REGION AND COUNTY	SAMPLE SIZE*	HUNTER-DAYS AFIELD	BIRDS BAGGED	BIRDS PER HUNTER-DAY	% OF PRESSURE	% OF HARVEST
NORTHERN REGION						
BOX ELDER	38	1,413	1,163	0.82	13.99	25.93
CACHE	20	706	124	0.18	7.00	2.78
DAVIS	2	20	20	1.00	0.21	0.46
MORGAN	3	124	41	0.33	1.23	0.93
RICH	33	914	228	0.25	9.05	5.09
SUMMIT	9	1,039	124	0.12	10.29	2.78
WEBER	19	893	602	0.67	8.85	13.43
REGIONAL TOTALS	124	5,113	2,307	0.45	50.62	51.40
CENTRAL REGION						
JUAB	0	0	0	0.00	0.00	0.00
SALT LAKE	5	478	20	0.04	4.73	0.46
SANPETE	3	103	62	0.60	1.03	1.39
TOOELE	6	249	124	0.50	2.47	2.78
UTAH	9	394	187	0.47	3.91	4.17
WASATCH	9	498	103	0.21	4.94	2.32
REGIONAL TOTALS	32	1,725	498	0.29	17.08	11.11
SOUTHERN REGION						
BEAVER	1	41	0	0.00	0.41	0.00
GARFIELD	1	20	0	0.00	0.21	0.00
IRON	1	20	0	0.00	0.21	0.00
KANE	0	0	0	0.00	0.00	0.00
MILLARD	1	20	41	2.00	0.21	0.93
PIUTE	0	0	0	0.00	0.00	0.00
SEVIER	8	353	270	0.76	3.50	6.02
WASHINGTON	0	0	0	0.00	0.00	0.00
WAYNE	14	436	207	0.48	4.32	4.63
REGIONAL TOTALS	26	893	519	0.58	8.85	11.58
NORTHEASTERN REGION						
DAGGETT	3	62	41	0.67	0.62	0.93
DUCHESNE	9	540	124	0.23	5.35	2.78
UINTAH	18	1,413	789	0.56	13.99	17.60
REGIONAL TOTALS	30	2,016	956	0.47	19.96	21.30
SOUTHEASTERN REGION						
CARBON	0	0	0	0.00	0.00	0.00
EMERY	3	83	103	1.25	0.82	2.32
GRAND	2	145	83	0.57	1.44	1.85
SAN JUAN	1	62	20	0.33	0.62	0.46
REGIONAL TOTALS	6	290	207	0.71	2.88	4.63
UNKNOWN	2	62	0	0.00	0.62	0.00
STATE TOTALS	220	10,101	4,489	0.44	100.00	100.00

**** Total hunter trips from questionnaire returns.***

Table 7. Summary of sage grouse bagged per hunter-day by region and county, 1990-97.

Region and County	Year							
	1990	1991	1992	1993	1994	1995	1996	1997
Northern Region								
Box Elder	0.92	0.55	0.96	0.79	0.79	0.40	0.57	0.82
Cache	0.58	0.32*	0.55*	0.21*	0.50*	0.27*	0.57*	0.18*
Davis	0.25*	0.18*	0.60*	0.08*	0.00*	0.59*	2.33*	1.00*
Morgan	0.33*	0.93*	0.71*	0.00*	0.19*	0.00*	1.92*	0.33*
Rich	0.85	1.01	0.82	0.79	0.53	0.47	0.56	0.25
Summit	0.77*	0.67*	1.38*	0.56*	0.44*	0.13*	0.80*	0.12*
Weber	0.43*	0.34*	0.55*	0.50*	0.08*	0.15*	1.28*	0.67*
REGIONAL TOTALS	**0.75**	**0.66**	**0.80**	**0.59**	**0.54**	**0.37**	**0.84**	**0.45**
Central Region								
Juab	0.20*	0.54*	0.17*	0.22*	2.71*	1.89*	4.00*	0.00*
Salt Lake	0.00*	0.70*	0.00*	0.20*	0.00*	0.00*	0.00*	0.04*
Sanpete	1.00*	0.44*	0.22*	0.33*	0.45*	0.20*	0.69*	0.60*
Tooele	1.15*	0.35*	0.65*	1.07*	1.83*	1.00*	0.50*	0.50*
Utah	0.39	0.86*	0.96*	0.27*	0.56*	0.73*	0.77*	0.47*
Wasatch	0.55*	0.47*	0.70*	0.46*	0.80*	0.57*	0.64*	0.21*
REGIONAL TOTALS	**0.52**	**0.53**	**0.68**	**0.59**	**1.16**	**0.69**	**0.84**	**0.29**
Southern Region								
Beaver	0.38	0.29	0.83	1.00	0.47	1.13	0.00	0.00
Garfield	0.74	0.52	0.96	0.90	1.11	0.36	0.50	0.00
Iron	0.58	0.93	0.64	0.53	1.29	0.30	0.00	0.00
Kane	0.54	0.67	0.71	0.00	1.25	1.00*	1.00*	0.00*
Millard	3.14*	1.27*	0.80*	4.00*	0.67*	1.58*	1.25*	2.00*
Piute	0.50	1.00	1.71	1.13	0.78	0.14	0.50	0.00*
Sevier	1.08	0.39	0.49	0.36	0.54	0.04	0.93	0.76
Washington	1.63*	2.00*	1.00*	0.00*	0.00*	0.00*	2.00*	0.00*
Wayne	1.04	1.03	0.92	0.66	0.79	0.76	0.46	0.48
REGIONAL TOTALS	**0.92**	**0.78**	**0.79**	**0.70**	**0.81**	**0.56**	**0.56**	**0.58**
Northeastern Region								
Daggett	0.73	0.48	0.60	0.67	0.25	0.94	0.43	0.67
Duchesne	1.19	0.67	0.36	1.29	0.00	0.75	0.24	0.23
Uintah	0.87	0.71	0.87	0.73	0.83	0.85	0.62	0.56
REGIONAL TOTALS	**0.89**	**0.68**	**0.76**	**0.79**	**0.72**	**0.86**	**0.52**	**0.47**
Southeastern Region								
Carbon	0.29	0.50	0.64	0.36	0.00*	1.71*	0.50*	0.00*
Emery	0.20*	0.88*	0.60*	1.00*	0.80*	0.00*	1.50*	1.25*
Grand	1.11	0.00	1.33	4.00	1.00*	0.60*	0.03*	0.57
San Juan	0.00*	0.57*	0.00*	0.00*	0.00*	0.00*	1.00*	0.33*
REGIONAL TOTALS	**0.47**	**0.59**	**0.77**	**0.71**	**0.50**	**0.56**	**0.25**	**0.71**
Unknown counties	0.00	0.00	0.00	0.47	0.00	1.00	0.00	0.00
STATE TOTALS	0.78	0.67	0.77	0.64	0.68	0.57	0.70	0.44

Closed season.

() Percent of bag per hunter-day in closed areas.

Table 8. Percentage distribution of sage grouse harvest by region and county, 1990-97.

Region and County	Year							
	1990	1991	1992	1993	1994	1995	1996	1997
Northern Region								
Box Elder	17.21	12.34	15.50	11.22	20.10	9.81	11.59	25.93
Cache	5.22	2.64*	5.12*	2.45*	3.23*	3.00*	7.31*	2.78*
Davis	0.26*	0.28*	1.75*	0.20*	0.00*	3.54*	1.76*	0.46*
Morgan	0.78*	1.80*	1.75*	0.00*	0.74*	0.00*	11.59*	0.93*
Rich	14.99	24.55	15.79	18.57	13.15	8.99	7.31	5.09
Summit	1.30*	2.22*	1.61*	4.08*	1.99*	0.27*	2.02*	2.78*
Weber	2.48*	2.91*	1.75*	2.24*	0.50*	0.82*	15.11*	13.43*
REGIONAL TOTAL	**42.24**	**46.74**	**43.27**	**38.78**	**39.70**	**26.43**	**56.68**	**51.40**
Central Region								
Juab	0.39*	0.97*	0.15*	0.41*	4.71*	4.63*	3.02*	0.00*
Salt Lake	0.00*	0.97*	0.00*	0.20*	0.00*	0.00*	0.00*	0.46*
Sanpete	1.17*	0.97*	0.73*	0.61*	1.24*	1.36*	2.27*	1.39*
Tooele	1.96*	0.97*	1.90*	5.92*	5.46*	2.73*	1.01*	2.78*
Utah	2.09	1.66*	7.75*	0.61*	2.23*	5.18*	6.80*	4.17*
Wasatch	0.78*	1.25*	1.02*	1.22*	0.99*	2.18*	1.76*	2.32*
REGIONAL TOTALS	**6.39**	**6.80**	**11.55**	**8.98**	**14.64**	**16.08**	**14.86**	**11.11**
Southern Region								
Beaver	0.65	0.28	2.19	2.24	2.23	4.63	0.00	0.00
Garfield	7.17	2.36	3.51	3.88	5.21	2.18	1.26	0.00
Iron	1.43	1.94	3.65	4.29	5.46	2.18	0.00	0.00
Kane	0.91	0.28	0.73	0.00	1.24	0.55*	0.50*	0.00*
Millard	2.87*	2.64*	0.58*	4.08*	1.99*	5.18*	1.26*	0.93*
Piute	0.65	2.77	1.75	1.84	3.47	0.27	0.50	0.00
Sevier	6.78	3.05	2.92	4.08	3.23	0.27	3.35	6.02
Washington	1.69*	0.55*	0.29*	0.00*	0.00*	0.00*	1.51*	0.00*
Wayne	6.39	10.13	7.02	6.33	4.71	6.00	4.03	4.63
REGIONAL TOTALS	**28.55**	**24.00**	**22.66**	**26.74**	**27.54**	**21.26**	**12.60**	**11.58**
Northeastern Region								
Daggett	3.78	1.39	1.32	1.63	0.50	4.36	0.76	0.93
Duchesne	4.82	2.77	1.46	3.67	0.00	1.64	1.26	2.78
Uintah	11.80	14.98	16.37	13.67	14.64	22.35	11.34	17.60
REGIONAL TOTALS	**20.47**	**19.14**	**19.15**	**18.98**	**15.14**	**28.34**	**13.35**	**21.30**
Southeastern Region								
Carbon	0.91	1.80	1.32	0.82	0.00*	3.27*	0.50*	0.00*
Emery	0.13*	0.97*	0.88*	0.41*	1.99*	0.00*	0.76*	2.32*
Grand	1.30	0.00	1.17	0.82	0.99*	1.64*	0.25*	1.85*
San Juan	0.00*	0.55*	0.00*	0.00*	0.00*	0.00*	1.01*	1.46*
REGIONAL TOTALS	**2.35**	**3.33**	**3.36**	**2.04**	**2.98**	**4.91**	**2.52**	**4.63**
Unknown counties	0.00	0.00	0.00	4.49	0.00	3.00	0.00	0.00
Closed areas	(13.81)	(21.36)	(25.28)	(22.43)	(26.07)	(34.35)		
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Closed season

( )Percent of total harvest in closed areas.

Table 9. Percentage distribution of sage grouse hunting pressure by region and county, 1990-97.

Region and County	Year							
	1990	1991	1992	1993	1994	1995	1996	1997
Northern Region								
Box Elder	14.71	15.16	12.39	9.19	17.40	14.02	14.24	13.99
Cache	7.05	5.61*	7.21*	7.35*	4.39*	6.32*	8.96	7.00
Davis	0.82*	1.03*	2.25*	1.71*	1.01*	3.39*	0.53	0.21
Morgan	1.84*	1.31*	1.91*	1.18*	2.70*	1.23*	4.22	1.23
Rich	13.89	16.46	14.75	15.09	16.89	10.79	9.14	9.05
Summit	1.33*	2.25*	0.90*	4.72*	3.04*	1.23*	1.76	10.29
Weber	4.49*	5.80*	2.48*	2.89*	4.39*	3.08*	8.26	8.85
REGIONAL TOTALS	**44.13**	**47.62**	**41.89**	**42.13**	**49.83**	**40.06**	**47.10**	**50.62**
Central Region								
Juab	1.53*	1.22*	0.68*	1.18*	1.18*	1.39*	0.53	0.00
Salt Lake	0.51*	0.94*	0.34*	0.66*	0.00*	0.15*	0.00	4.73
Sanpete	0.92*	1.50*	2.59*	1.18*	1.86*	3.85*	2.28	1.03
Tooele	1.33*	1.87*	2.25*	3.54*	2.03*	1.54*	1.41	2.47
Utah	4.19	1.31*	6.19*	1.44*	2.70*	4.01*	6.15	3.91
Wasatch	1.12*	1.78*	1.13*	1.71*	0.84*	2.16*	1.93	4.94
REGIONAL TOTALS	**9.60**	**8.61**	**13.18**	**9.71**	**8.62**	**13.10**	**12.30**	**17.08**
Southern Region								
Beaver	1.33	0.65	2.03	1.44	3.21	2.31	0.53	0.41
Garfield	7.56	3.09	2.82	2.76	3.21	3.39	1.76	0.21
Iron	1.94	1.40	4.39	5.25	2.87	4.16	2.46	0.21
Kane	1.33	0.28	0.79	0.00	0.68	0.31*	0.35	0.00
Millard	0.72*	1.40*	0.56*	0.66*	2.03*	1.85*	0.70	0.21
Piute	1.02	1.87	0.79	1.05	3.04	1.08	0.70	0.00
Sevier	4.90	5.33	4.62	7.35	4.05	4.01	2.64	3.50
Washington	0.82*	0.19*	0.23*	0.00*	0.00*	0.00*	0.53	0.00
Wayne	4.80	6.64	5.86	6.17	4.05	4.47	6.15	4.32
REGIONAL TOTALS	**24.41**	**20.86**	**22.07**	**24.67**	**23.14**	**21.57**	**15.82**	**8.85**
Northeastern Region								
Daggett	4.09	1.96	1.69	1.57	1.35	2.62	1.23	0.62
Duchesne	3.17	2.81	3.15	1.84	1.01	1.23	3.69	5.35
Uintah	10.73	14.31	14.53	12.07	1.99	14.79	12.83	13.99
REGIONAL TOTALS	**17.98**	**19.08**	**19.37**	**15.49**	**14.36**	**18.64**	**17.75**	**19.96**
Southeastern Region								
Carbon	2.45	2.43	1.58	1.44	1.69	1.08*	0.70	0.00
Emery	0.51*	0.75*	1.13*	0.26*	1.69*	0.31*	0.35	0.82
Grand	0.92	0.00	0.68	0.13	0.68	1.54*	5.27	1.44
San Juan	0.00*	0.65*	0.00*	0.00*	0.00*	2.00*	0.70	0.62
REGIONAL TOTALS	**3.88**	**3.84**	**3.38**	**1.84**	**4.05**	**4.93**	**7.03**	**2.88**
Unknown counties	0.00	0.00	0.11	6.17	0.00	1.69	0.00	0.62
Closed areas	(15.94)	(26.29)	(29.85)	(28.48)	(25.16)	(35.44)		
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Closed season

( )Percent of total pressure in closed areas.

Table 10. Statewide summary of sage grouse harvest statistics, 1951-97.

Year	Total Hunters*	Total Harvest*	Hunter-days Afield	Sage Grouse Per Hunter-Da	Sage Grouse Per Hunter
1951	840	2,458	--	--	2.93
1952	678	2,230	--	--	3.29
1953	895	2,581	--	--	2.88
1954	802	2,510	--	--	3.13
1955	579	1,742	--	--	3.01
1956	495	1,375	--	--	2.97
1957	470	1,303	--	--	2.77
1958	567	1,797	--	--	3.17
1959	699	1,875	--	--	2.68
1960	861	2,246	--	--	2.61
1961**	1,078	1,918	--	--	1.78
1962***	2,382	5,352	5,097	1.05	1.89
1963	12,366	13,793	15,564	0.89	1.12
1964	4,362	6,827	5,807	1.18	1.56
1965	3,243	3,881	4,673	0.83	1.20
1966	2,612	3,962	4,006	0.99	1.52
1967	5,336	5,089	7,860	0.65	0.95
1968	9,115	11,109	13,601	0.82	1.22
1969	12,894	22,282	20,466	1.09	1.73
1970	12,036	15,877	18,506	0.86	1.32
1971	12,893	20,013	21,509	0.93	1.55
1972	13,040	15,983	22,232	0.72	1.23
1973	10,017	13,926	19,049	0.73	1.39
1974	12,214	15,215	23,516	0.65	1.25
1975	13,996	18,916	25,720	0.74	1.35
1976	15,283	24,541	28,342	0.87	1.61
1977	14,078	18,615	25,759	0.72	1.32
1978	16,231	25,938	29,861	0.87	1.60
1979	16,927	28,280	30,682	0.92	1.67
1980	15,219	22,770	26,893	0.85	1.50
1981	10,083	15,857	18,617	0.85	1.57
1982	8,997	12,383	15,663	0.79	1.38
1983	9,201	14,949	18,467	0.81	1.63
1984	8,283	10,921	15,266	0.72	1.32
1985	7,586	11,466	14,702	0.78	1.51
1986	7,233	11,766	13,992	0.84	1.63
1987	7,060	12,673	14,242	0.89	1.80
1988	8,499	14,692	19,418	0.76	1.73
1989	9,002	13,710	19,373	0.71	1.52
1990	9,014	15,784	20,147	0.78	1.75
1991	8,018	12,542	18,596	0.67	1.56
1992	7,393	12,156	15,781	0.77	1.64
1993	6,594	9,311	14,480	0.64	1.41
1994	5,133	7,084	10,406	0.68	1.38
1995	5,987	7,133	12,615	0.57	1.19
1996	5,574	9,220	13,215	0.70	1.65
1997	4,178	4,489	10,101	0.44	1.07
Totals (1951-97)	340,043	510,540	614,224	--	--
Average (1951-96)	7,301	11,001	13,133	0.62	1.80

* The number of sage grouse hunters and consequently harvest was limited by permits available from 1951 through 1962.

** Estimated.

*** Totals and indices based on indiscrete data.

Table 11. Sage grouse field bag check summary, 1997.

Region and County	All Hunts					Complete Hunts					
	Total Parties	Total Hunters	Total Hours	Total Birds	Birds/ 100 Hr	Complete Hunts	Total Hunters	Total Hours	Total Birds	Birds/ 100 Hr	Birds/ Hunter
Northern Region											
Box Elder	27	97	383	33	9	27	97	383	33	9	0.34
Cache	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--
Rich	27	65	181	11	6	27	65	181	11	6	0.17
Summit	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	54	162	564	44	8	54	162	564	44	8	0.27
Central Region											
Juab	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Southern Region											
Beaver	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	69	360	30	8	--	69	360	30	8	0.43
REGIONAL TOTALS	--	69	360	30	8	--	69	360	30	8	0.43
Northeastern Region											
Daggett	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Southeastern Region	--	--	--	--	--	--	--	--	--	--	--
Carbon	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
STATE TOTALS	54	231	924	74	8	54	231	924	74	8	0.32

Table 12. Sage grouse hunter success trend as determined by field bag check, 1992-97.

Region and County	1992		1993		1994		1995		1996		1997	
	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter
Northern Region												
Box Elder	19	1.43	18	0.99	21	0.98	23	0.58	14	0.63	9	0.34
Cache	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	9	0.52	3	0.28	8	0.51	17	0.33	14	0.48	6	0.17
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	15	0.99	10	0.73	15	0.80	21	0.48	14	0.53	8	0.27
Central Region												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	7	0.44	7	0.43	7	0.30	6	0.42	11	0.49	8	0.43
REGIONAL TOTALS	7	0.44	7	0.43	7	0.30	6	0.42	11	0.49	8	0.43
Northeastern Region												
Daggett	--	--	--	--	--	--	0	0.00	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	26	0.81	50	0.50	23	0.78	27	0.94	--	--	--	--
REGIONAL TOTALS	26	0.81	50	0.50	23	0.78	16	0.50	--	--	--	--
Southeastern Region									--	--	--	--
Carbon	36	1.43	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--	--
Grand	30	2.40	17	0.43	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	32	1.83	17	0.43	--	--	--	--	--	--	--	--
STATE TOTALS	14	0.88	10	0.66	14	0.70	15	0.47	13	0.53	8	0.32

Table 13. Sex and age composition of harvested sage grouse, 1997.

Region and County	Adults			Yearlings			Immatures			Sample Size	Young/ 100 Hens	Young/ 100 Adults
	M	F	Total	M	F	Total	M	F	Total			
Northern Region												
Box Elder	2	2	4	0	0	0	12	14	26	30	1,300	650
Cache	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	3	5	8	1	3	4	8	18	26	38	235	217
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	5	7	12	1	3	4	20	32	52	68	520	325
Central Region												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	4	8	12	2	12	14	34	40	74	100	370	285
REGIONAL TOTALS	4	8	12	2	12	14	34	40	74	100	370	285
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
Southeastern Region												
Carbon	--	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
STATE TOTALS	9	15	24	3	15	18	54	72	126	168	420	300

Table 14. Sex and age composition of harvested sage grouse from 1993-97.

Region and County	1993					1994					1995					1996					1997				
	Sex Ratio %			Young/	Young/	Sex Ratio %			Young/	Young/	Sex Ratio %			Young/	Young/	Sex Ratio %			Young/	Young/	Sex Ratio %			Young/	Young/
	n	M	F	100H	100A	n	M	F	100H	100A	n	M	F	100H	100A	n	M	F	100H	100A	n	M	F	100H	100A
Northern Region																									
Box Elder	174	39	61	150	100	183	45	55	292	135	62	52	48	167	68	49	35	65	156	133	30	47	53	1,300	650
Cache	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Davis	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Morgan	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Rich	195	–	–	235	178	310	38	62	235	163	310	38	62	235	163	75	39	61	235	226	38	32	68	235	217
Summit	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Weber	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
REGIONAL TOTALS	369	39	61	150	100	493	41	59	243	152	372	40	60	215	140	124	37	63	216	182	68	38	62	520	325
Central Region																									
Juab	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Salt Lake	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Sanpete	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Tooele	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Utah	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Wasatch	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
REGIONAL TOTALS	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Southern Region																									
Beaver	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Garfield	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Iron	59	29	71	189	157	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Kane	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Millard	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Piute	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Sevier	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Washington	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Wayne	179	34	66	155	124	161	32	68	156	115	101	50	50	141	80	109	38	62	233	179	100	40	60	370	285
REGIONAL TOTALS	238	32	68	163	131	161	32	68	156	115	101	50	50	141	80	109	38	62	233	179	100	40	60	370	285
Northeastern Region																									
Daggett	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Duchesne	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Uintah	2	0	100	100	100	–	–	–	–	–	72	50	50	126	89	–	–	–	–	–	–	–	–	–	–
REGIONAL TOTALS	2	0	100	100	100	–	–	–	–	–	72	50	50	126	89	–	–	–	–	–	–	–	–	–	–
Southeastern Region																									
Carbon	11	27	73	100	83	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Emery	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Grand	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
San Juan	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
REGIONAL TOTALS	11	27	73	100	83	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
STATE TOTALS	620	35	65	155	116	654	38	62	216	141	545	43	57	185	119	233	37	63	224	181	168	39	61	420	300

Above average precipitation throughout Utah during April - June may have severely impacted forest grouse production.

Total harvest decreased 49 percent from 1996. Total hunters and days afield also decreased. Ruffed grouse comprised 47.63 percent of the harvest while blue grouse comprised 52.37 percent.

Brood Counts

Ruffed Grouse

Results of the annual random brood survey for 1997 are shown in Table 1 of this section. Long-term trends of young per adult ratios, mean brood size and ruffed grouse observed per 100 hours are found in Tables 2-4. A summary of effort expended on ruffed and blue grouse brood counts combined is shown in Table 9. Survey results for 1997 compared to 1996 and the previous 10-year average (1987-1996) follow:

	1997	Percent change from 1996	Percent change from Average
Total ruffed grouse observed	41	-18	-29
Young per 100 adults	425	+49	+54
Mean brood size	6.75	+125	+92
Ruffed grouse observed per 100 hours	336	-87	+11
Total hours effort	12.5	+525	-92

Very little effort was expended to collect brood count data in 1997. Most data is collected opportunistically as broods are observed.

Blue Grouse

Results of the annual random brood survey for 1997 are shown in Table 5 of this section. Long-term trends of young per adult ratios, mean brood size and blue grouse observed per 100 hours are found in Tables 6-8. Survey results for 1997 compared to 1996 and the 10-year average (1987-96) follow:

	1997	Percent change from 1996	Percent change from Average
Total blue grouse observed	106	+121	-56
Young per 100 adults	253	-25	0
Mean brood size	3.82	-8	+4
Blue grouse observed per 100 hours	663	-45	+158
Total hours effort (forest grouse)	16	+300	-91

The 1997 summer surveys on blue grouse indicated that production decreased 25 percent from 1996, but was the same as the long-term average. Efforts to collect blue grouse brood information increased 300 percent in 1997, but were limited.

Harvest

Hunter Questionnaire

Results of the 1997 blue grouse, ruffed grouse and combined hunter questionnaire are shown in Table 10, 11 and 12 respectively. Long-term trends of forest grouse bagged per hunter-day, percent of harvest and percent of pressure (hunter-days) by county are found in Tables 13-15 and total statewide harvest statistics in Table 16 and Figures 1 and 2. Forest grouse season length, bag limits and harvest statistics, 1963-1997 are listed in Table 17. Harvest statistics for 1997 compared to 1996 and the 34-year average follow:

	1997	Percent change from 1996	Percent change from Average
Forest grouse hunters	10,206	-31	-29
Forest grouse harvested	31,198	-49	-12
Hunter-days afield	39,304	-37	+5
Forest grouse per hunter-day	0.79	-18	-16
Forest grouse per hunter	3.06	-26	+29
Percent ruffed grouse	47.63	-2	-22
Percent blue grouse	52.37	+2	-6
Percent unidentified	--	--	--

Total harvest decreased 49 percent from 1996 and was 12 percent below average. Overall, hunter success (grouse per hunter-day) decreased 18 percent in 1997, and remains 16 percent below average. The number of grouse harvested per hunter was 29 percent below average.

Figure 1. Statewide trends of forest grouse harvest statistics, 1963-97.

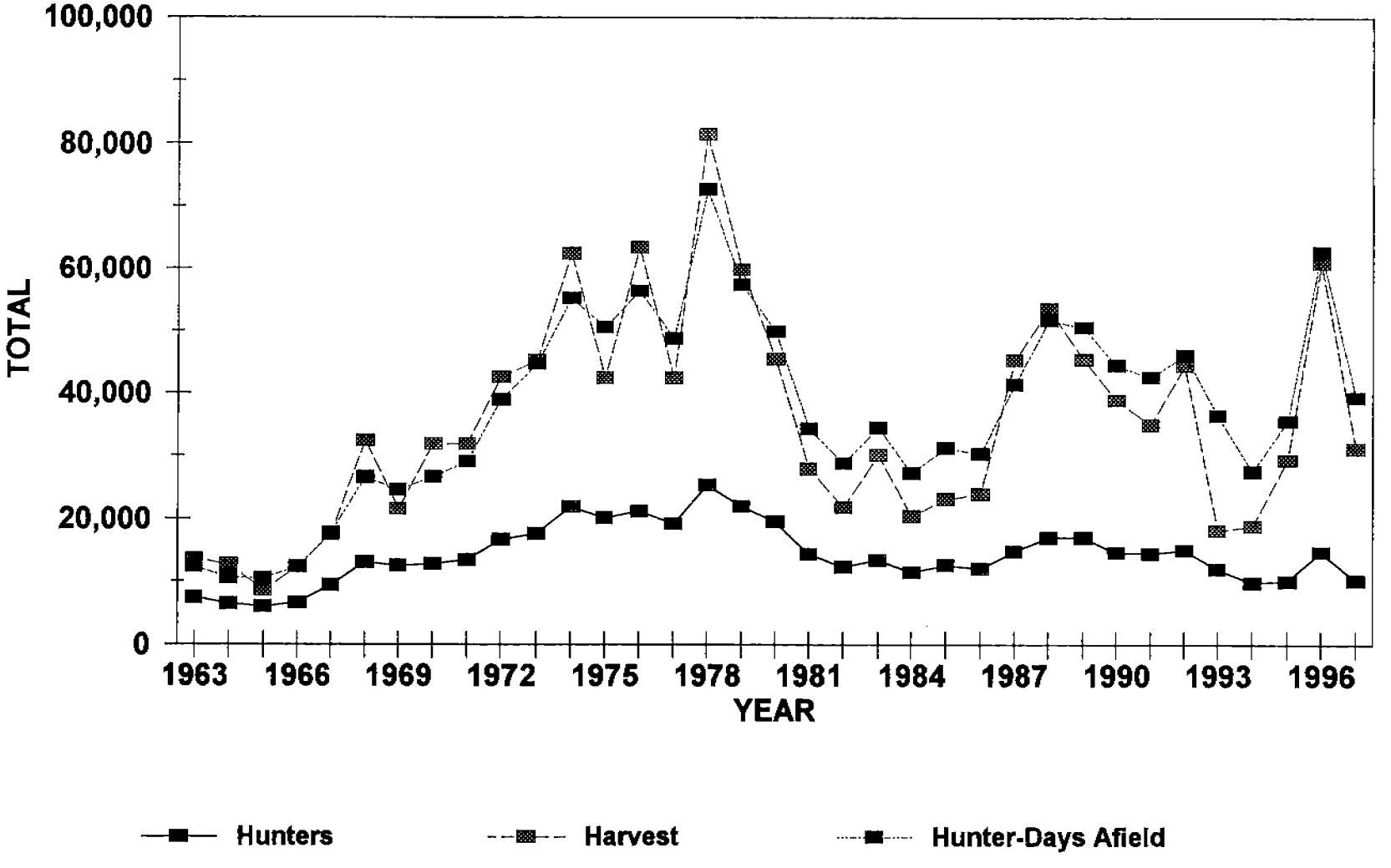
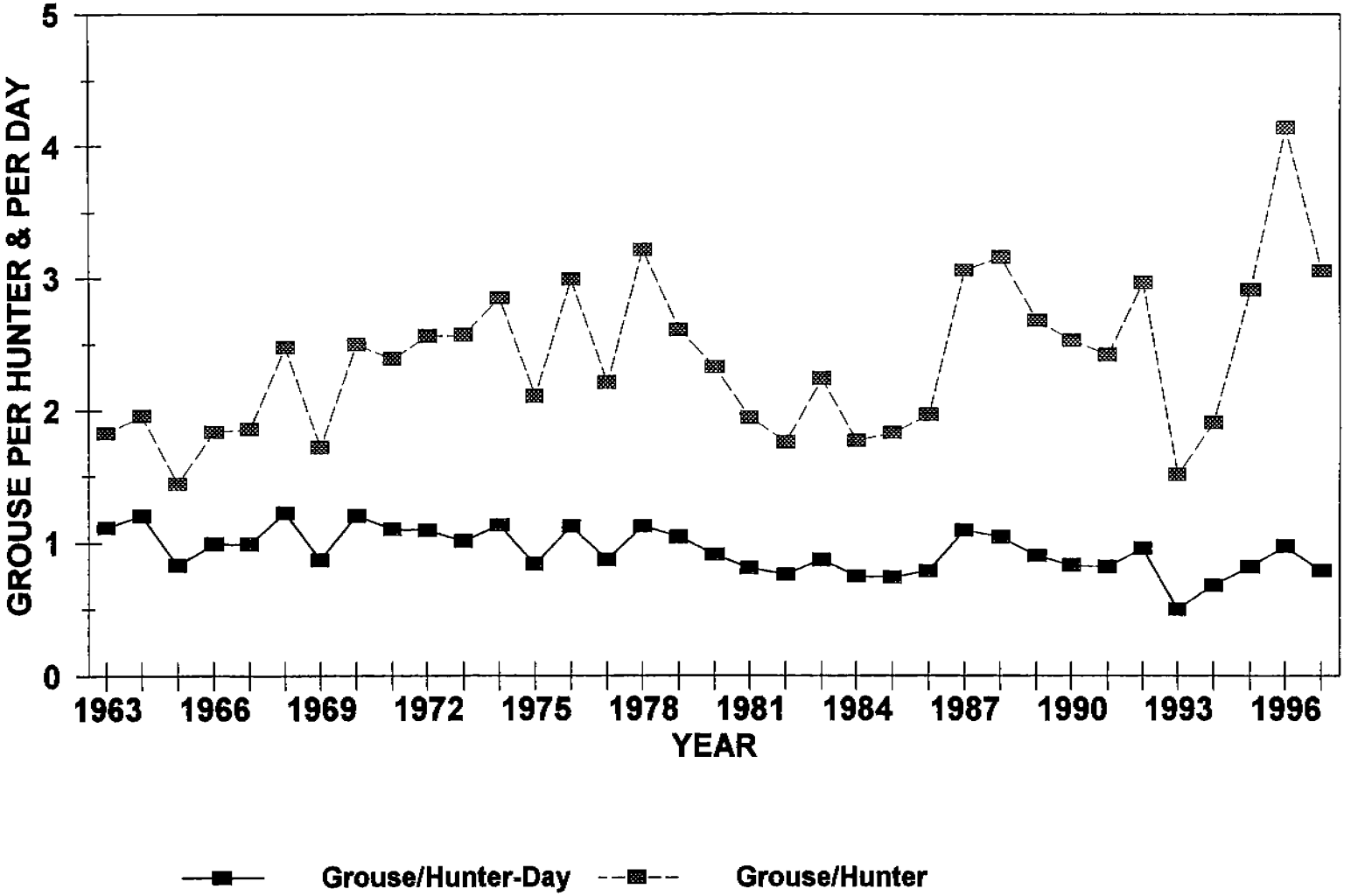


Figure 2. Statewide trends of forest grouse hunter success rates, 1963-97.



Field Bag Checks

A summary of field bag check data for 1997 is shown in Table 18. Hunter success trends determined via this method are shown in Table 19.

Results of the 1997 survey compared to 1996 and the 10-year (1987-96) average follow:

	1997	Percent change from 1996	Percent change from Average
Total hunters checked	226	-27	-57
Total hours hunted	404	-67	-79
Forest grouse per hunter (complete hunts)	0.27	-77	-65
Forest grouse bagged per 100 hours	15	-52	-48
Average hours per hunter-day (complete hunts)	1.79	-54	-47
Hours hunted per grouse bagged (complete hunts)	6.52	+99	+42

Opening weekend success reflected total season statewide harvest. Forest grouse per hunter decreased 77 percent from 1996.

Sex and Age Composition of the Harvest

Sex and age composition of the harvest as determined from wings is shown in Table 20 and 21.

Following are data derived from ruffed grouse wing surveys in 1997 compared to 1996:

	1997	Percent change from 1996	Percent change from Average
Sample Size	43	-90	--
Percent Males	--	--	--
Percent Females	--	--	--
Young per 100 adults	169	-28	--
Young per 100 hens (adult)	--	--	--

Following are data derived from blue grouse wing surveys in 1997 compared to 1996:

	1997	Percent change from 1996	Percent change from Average
Sample Size	42	-90	--
Percent Males	60	+46	--
Percent Females	40	-32	--
Young per 100 adults	367	+40	--
Young per 100 hens (adult)	1,100	+126	--

Table 1. Ruffed grouse summer inventory, 1997.

Region and County	Distinct Broods #	Distinct Broods Adults	Distinct Broods Young	Mean Brood	Mixed Young & Adults Adults	Mixed Young & Adults Young	Adults w/o Young	Total Adults	Total Young	Young/ 100 Adults	Vehicle Miles	Hours of Effort Vehicle	Hours of Effort Horse	Hours of Effort Walk	Hours of Effort Total	Birds/ 100 Hr
Northern Region																
Box Elder	--	--	--	ERR	--	--	--	0	0	ERR	46	6	--	4	10	0
Cache	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Davis	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Morgan	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Rich	3	3	26	8.67	3	7	1	7	33	471	--	--	--	--	0	ERR
Summit	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Weber	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
REGIONAL TOTALS	3	3	26	8.67	3	7	1	7	33	471	46	6	0	4	10	400
Central Region																
Juab	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Salt Lake	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Sanpete	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Tooele	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Utah	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Wasatch	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
REGIONAL TOTALS	0	0	0	ERR	0	0	0	0	0	ERR	0	0	0	0	0	ERR
Southern Region																
Beaver	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Garfield	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Iron	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Kane	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Millard	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Piute	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Sevier	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Washington	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Wayne	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
REGIONAL TOTALS	--	--	--	ERR	--	--	--	--	--	ERR	--	--	--	--	--	ERR
Northeastern Region																
Daggett	1	1	1	1.00	0	0	0	1	1	100	5	0.5	0	2	2.5	80
Duchesne	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Uintah	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
REGIONAL TOTALS	1	1	1	1.00	0	0	0	1	1	100	5	0.5	0	2	2.5	80
Southeastern Region																
Carbon	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Emery	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Grand	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
San Juan	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
REGIONAL TOTALS	--	--	--	ERR	--	--	--	--	--	ERR	--	--	--	--	--	ERR
STATE TOTALS	4	4	27	6.75	3	7	1	8	34	425	51	6.5	0	6	12.5	336

Table 2. Trend of ruffed grouse young per 100 adults, 1987-97.

Region and County	Year											Average
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1987-96
Northern Region												
Box Elder	150	50	--	300	250	400	--	--	--	--	--	
Cache	300	267	300	150	225	167	--	--	--	233	--	
Davis	--	136	--	--	--	217	--	--	--	--	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	267	--	--	--	--	--	--	--	--	471	
Summit	500	--	300	450	400	--	--	--	--	--	--	
Weber	380	220	--	--	700	467	--	--	--	--	--	
REGIONAL TOTALS	337	141	300	300	356	277	--	--	--	233	471	277
Central Region												
Juab	--	--	--	--	--	--	--	--	--	--	--	
Salt Lake	0	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	--	--	--	300	400	--	--	--	--	--	
Tooele	--	--	--	--	--	--	--	--	--	--	--	
Utah	320	300	300	--	--	100	100	--	--	--	--	
Wasatch	--	--	--	280	--	--	--	--	--	400	--	
REGIONAL TOTALS	320	300	300	280	300	250	100	--	--	400	--	281
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	--	--	--	--	--	--	--	--	--	--	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	--	--	--	--	--	--	--	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	--	450	--	--	--	--	--	--	--	--	--	
Washington	--	--	--	--	--	--	--	--	--	--	--	
Wayne	--	--	--	333	--	--	--	--	--	--	--	
REGIONAL TOTALS	--	450	--	333	--	--	--	--	--	--	--	392
Northeastern Region												
Daggett	--	--	150	--	--	--	--	400	--	--	100	
Duchesne	--	--	400	600	--	--	--	--	--	--	--	
Uintah	400	--	267	600	--	--	--	--	--	--	--	
REGIONAL TOTALS	400	--	250	600	--	--	--	400	--	--	100	413
Southeastern Region									--			
Carbon	--	--	--	--	--	--	--	--	--	--	--	
Emery	300	--	--	--	--	--	--	--	--	--	--	
Grand	--	--	--	--	--	--	--	--	--	--	--	
San Juan	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	300	--	--	--	--	--	--	--	--	--	--	300
STATE TOTALS	306	160	277	356	350	273	100	400	--	285	425	279

Table 3. Trend of average brood size for ruffed grouse, 1987-97.

Region and County	Year											Average
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1987-96
Northern Region												
Box Elder	3.00	3.00	--	3.00	5.00	4.00	--	--	--	--	--	
Cache	3.14	4.00	3.00	3.00	3.00	5.00	--	--	--	2.33	--	
Davis	--	4.00	--	--	--	4.33	--	--	--	--	--	
Morgan	--	--	--	--	3.33	--	--	--	--	--	--	
Rich	--	--	3.00	--	--	--	--	--	--	--	8.67	
Summit	5.00	--	3.00	4.50	4.00	--	--	--	--	--	--	
Weber	4.75	3.67	--	--	7.00	4.67	--	--	--	--	--	
REGIONAL TOTALS	3.93	3.64	3.00	3.75	4.13	4.50	--	--	--	2.33	8.67	3.61
Central Region									--			
Juab	--	--	--	--	--	--	--	--	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	--	--	--	3.00	4.00	--	--	--	--	--	
Tooele	--	--	--	--	--	--	--	--	--	--	--	
Utah	3.20	3.00	3.00	--	--	1.00	1.00	--	--	--	--	
Wasatch	--	--	--	4.70	--	--	--	--	--	4.00	--	
REGIONAL TOTALS	3.20	3.00	3.00	4.70	3.00	2.50	1.00	--	--	4.00	--	3.05
Southern Region									--			
Beaver	--	--	--	--	--	--	--	--	--	--	--	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	--	--	--	--	--	--	--	--	--	--	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	--	--	--	--	--	--	--	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	--	4.50	--	--	--	--	--	--	--	--	--	
Washington	--	--	--	--	--	--	--	--	--	--	--	
Wayne	--	--	--	5.00	--	--	--	--	--	--	--	
REGIONAL TOTALS	--	4.50	--	5.00	--	--	--	--	--	--	--	4.75
Northeastern Region									--			
Daggett	--	--	3.00		--	--	--	4.00	--	--	1.00	
Duchesne	--	--	4.00	6.00	--	--	--	--	--	--	--	
Uintah	4.00	--	4.00	6.00	--	--	--	--	--	--	--	
REGIONAL TOTALS	4.00	--	3.75	6.00	--	--	--	4.00	--	--	1.00	4.44
Southeastern Region									--			
Carbon	--	--	--	--	--	--	--	--	--	--	--	
Emery	3.00	--	--	--	--	--	--	--	--	--	--	
Grand	--	--	--	--	--	--	--	--	--	--	--	
San Juan	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	3.00	--	--	--	--	--	--	--	--	--	--	3.00
STATE TOTALS	3.75	3.71	3.30	4.75	4.00	4.10	1.00	4.00	--	3.00	6.75	3.45

Table 4. Trend of ruffed grouse observed per 100 hours, 1987-97.

Region and County	Year											Average
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1987-96
Northern Region												
Box Elder	31	100	--	64	29	45	--	--	--	--	0	
Cache	58	17	46	5	76	40	--	--	--	--	--	
Davis	--	114	--	--	--	76	--	--	--	--	--	
Morgan	--	--	--	--	50	--	--	--	--	--	--	
Rich	--	50	--	--	--	--	--	--	--	--	--	
Summit	900	--	9	40	20	--	--	--	--	--	--	
Weber	267	178	--	--	26	170	--	--	--	--	--	
REGIONAL TOTALS	56	62	22	13	32	47	--	--	--	--	400	39
Central Region									--			
Juab	--	--	--	--	--	--	--	--	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	--	--	--	12	38	--	--	--	--	--	
Tooele	--	--	--	--	--	--	--	--	--	--	--	
Utah	50	133	133	--	--	13	14	--	--	--	--	
Wasatch	25	--	--	46	--	--	--	--	--	1,000	--	
REGIONAL TOTALS	30	133	133	28	6	13	7	--	--	1,000	--	169
Southern Region									--			
Beaver	--	--	--	--	--	--	--	--	--	--	--	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	--	--	--	--	--	--	--	--	--	--	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	--	--	--	--	--	--	--	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	--	138	--	--	--	--	--	--	--	--	--	
Washington	--	--	--	--	--	--	--	--	--	--	--	
Wayne	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	--	138	--	433	--	--	--	--	--	--	--	286
Northeastern Region									--			
Daggett	--	--	109	--	--	--	--	50	--	--	80	
Duchesne	4	--	33	175	--	--	--	--	--	--	--	
Uintah	68	--	28	180	--	--	--	--	--	--	--	
REGIONAL TOTALS	28	--	28	105	--	--	--	50	--	--	80	53
Southeastern Region									--			
Carbon	--	--	--	--	--	--	--	--	--	--	--	
Emery	400	--	--	--	--	--	--	--	--	--	--	
Grand	--	--	--	--	--	--	--	--	--	--	--	
San Juan	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	400	--	--	--	--	--	--	--	--	--	--	400
STATE TOTALS	45	46	26	30	23	31	2	31	--	2,500	336	338

Table 5. Blue grouse summer inventory, 1997.

Region and County	Distinct Broods #	Distinct Broods Adults	Distinct Broods Young	Mean Brood	Mixed Young & Adults Adults	Mixed Young & Adults Young	Adults w/o Young	Total Adults	Total Young	Young/ 100 Adults	Vehicle Miles	Hours of Effort Vehicle	Hours of Effort Horse	Hours of Effort Walk	Hours of Effort Total	Birds/ 100 Hr
Northern Region																
Box Elder	--	--	--	ERR	--	--	--	0	0	ERR	46	6	--	4	10	0
Cache	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Davis	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Morgan	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Rich	7	6	30	4.29	5	3	4	15	33	220	--	--	--	--	0	ERR
Summit	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Weber	3	3	16	5.33	2	8	3	8	24	300	--	--	--	--	0	ERR
REGIONAL TOTALS	10	9	46	4.60	7	11	7	23	57	248	46	6	0	4	10	800
Central Region																
Juab	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Salt Lake	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Sanpete	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Tooele	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Utah	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Wasatch	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
REGIONAL TOTALS	0	0	0	ERR	0	0	0	0	0	ERR	0	0	0	0	0	ERR
Southern Region																
Beaver	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Garfield	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Iron	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Kane	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Millard	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Piute	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Sevier	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Washington	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Wayne	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
REGIONAL TOTALS	--	--	--	ERR	--	--	--	--	--	ERR	--	--	--	--	--	ERR
Northeastern Region																
Daggett	4	4	7	1.75	0	0	0	4	7	175	7	1	3	2	6	183
Duchesne	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Uintah	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
REGIONAL TOTALS	4	4	7	1.75	0	0	0	4	7	175	7	1	3	2	6	183
Southeastern Region																
Carbon	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Emery	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
Grand	3	3	12	4.00	0	0	0	3	12	400	--	--	--	--	0	ERR
San Juan	--	--	--	ERR	--	--	--	0	0	ERR	--	--	--	--	0	ERR
REGIONAL TOTALS	3	3	12	4.00	0	0	0	3	12	400	0	0	0	0	0	ERR
STATE TOTALS	17	16	65	3.82	7	11	7	30	76	253	53	7	3	6	16	663

Table 6. Trend of blue grouse young per 100 adults, 1987-97.

Region and County	Year											Average
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1987-96
Northern Region												
Box Elder	--	--	700	144	400	200	--	173	--	--	--	
Cache	300	363	257	300	600	80	--	--	--	400	--	
Davis	222	248	200	480	260	180	--	--	--	--	--	
Morgan	433	--	--	--	--	--	--	--	--	--	--	
Rich		--	--	--	600	400	--	--	--	--	220	
Summit	500	--	200	178	155	--	--	--	--	--	--	
Weber	380	400	--	--	186	100	--	--	--	--	300	
REGIONAL TOTALS	300	279	244	292	277	207	--	173	--	400	248	271
Central Region									--			
Juab	--	--	--	700	--	--	--	140	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	600	--	80	--	--	--	--	--	--	--	--	
Tooele	218	650	650	276	231	300	--	40	--	--	--	
Utah	256	267	267	286	170	--	--	75	--	--	--	
Wasatch	--	--	--	--	--	100	100	--	--	--	--	
REGIONAL TOTALS	273	486	317	286	194	80	60	75	--	--	--	221
Southern Region									--			
Beaver	133	109	--	--	--	--	--	--	--	--	--	
Garfield	160	--	23	--	--	--	--	--	--	--	--	
Iron	300	--	--	--	--	--	--	--	--	--	--	
Kane	475	250	--	--	--	--	--	--	--	--	--	
Millard	425	60	--	--	--	--	--	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	150	90	--	--	--	--	--	--	--	--	--	
Washington	533	--	--	--	--	--	--	--	--	--	--	
Wayne	350	375	--	--	246	--	--	--	--	--	--	
REGIONAL TOTALS	230	118	23	--	246	--	--	--	--	--	--	154
Northeastern Region												
Daggett	331	318	364	233	--	600	--	--	100	450	175	
Duchesne	129	190	--	600	--	800	200	--	--	--	--	
Uintah	500	233	138	60	--	--	600	--	350	300	--	
REGIONAL TOTALS	305	254	268	223	--	400	--	--	267	330	175	256
Southeastern Region												
Carbon	--	--	--	--	--	500	--	--	--	--	--	
Emery	400	100	--	--	--	--	--	--	--	--	--	
Grand	--	227	300	--	200	286	289	200	--	--	400	
San Juan	300	213	300	--	500	233	167	--	--	--	--	
REGIONAL TOTALS	140	200	75	--	350	284	240	200	--	--	400	213
STATE TOTALS	268	207	225	274	238	243	291	167	267	336	253	252

Table 7. Trend of average brood size for blue grouse, 1987-97.

Region and County	Year											Average
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1987-96
Northern Region												
Box Elder	--	--	7.00	3.20	4.00	5.00	--	3.80	--	--	--	
Cache	3.67	3.63	3.60	3.70	4.50	4.00	--	--	--	4.00	--	
Davis	2.83	4.00	4.50	6.50	4.33	3.00	--	--	--	--	--	
Morgan	4.33	--	--	--	--	--	--	--	--	--	--	
Rich		--	--	--	6.00	6.00	--	--	--	--	4.29	
Summit	5.00	--	3.00	4.00	3.40	--	--	--	--	--	--	
Weber	4.75	4.00	--	--	3.25	--	--	--	--	--	5.33	
REGIONAL TOTALS	3.88	3.84	3.86	4.30	4.05	4.31	--	3.80	--	4.00	4.60	4.01
Central Region									--			
Juab	--	--	--	7.00	--	--	--	3.50	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	6.00	--	2.00	--	--	--	--	--	--	--	--	
Tooele	3.43	6.00	6.00	3.13	3.60	3.00	--	2.00	--	--	--	
Utah	3.45	5.00	5.00	5.00	3.22	--	--	3.00	--	--	--	
Wasatch	--	--	--	--	--	1.00	3.00	--	--	--	--	
REGIONAL TOTALS	3.62	4.67	4.20	4.00	3.36	2.00	3.00	3.00	--	--	--	3.48
Southern Region									--			
Beaver	4.00	4.00	--	--	--	--	--	--	--	--	--	
Garfield	3.29	--	--	--	--	--	--	--	--	--	--	
Iron	3.50	--	--	--	--	--	--	--	--	--	--	
Kane	4.75	4.00	--	--	--	--	--	--	--	--	--	
Millard	4.25	1.50	--	3.00	--	--	--	--	--	--	--	
Piute		--	--	--	--	--	--	--	--	--	--	
Sevier	4.57	2.33	--	--	--	--	--	--	--	--	--	
Washington	5.33	--	--	--	--	--	--	--	--	--	--	
Wayne	3.50	3.75	--	--	4.57	--	--	--	--	--	--	
REGIONAL TOTALS	4.12	2.71	--	3.00	4.57	--	--	--	--	--	--	3.60
Northeastern Region												
Daggett	4.71	3.20	3.89	3.50	--	6.00	--	--	1.00	4.50	1.75	
Duchesne	2.50	2.50	--	6.00	--	8.00	2.00	--	--	--	--	
Uintah	5.00	3.50	2.20	--	--	--	6.00	--	3.50	4.00	--	
REGIONAL TOTALS	4.52	3.00	3.29	4.33	--	6.67	4.00	--	2.67	4.14	1.75	4.08
Southeastern Region												
Carbon	--	--	--	--	--	5.00	--	--	--	--	--	
Emery	4.00	4.00	--	--	--	--	--	--	--	--	--	
Grand	--	2.78	3.00	--	2.00	4.38	3.17	4.00	--	--	4.00	
San Juan	3.00	3.00	3.00	--	5.00	3.50	2.50	--	--	--	--	
REGIONAL TOTALS	3.50	2.93	3.00	--	3.50	4.13	2.90	4.00	--	--	4.00	3.42
STATE TOTALS	4.00	3.22	3.61	4.19	3.88	4.29	2.91	3.69	2.67	4.13	3.82	3.66

Table 8. Trend of blue grouse observed per 100 hours, 1987-97.

Region and County	Year											Average
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1987-96
Northern Region												
Box Elder	0	--	--	200	21	136	--	750	--	--	0	
Cache	71	56	114	108	165	45	--	--	--	--	--	
Davis	232	300	120	426	86	112	--	--	--	--	--	
Morgan	59	--	17		--	--	--	--	--	--	--	
Rich	0	0	--	--	175	79	--	--	--	--	--	
Summit	900	--	21	100	55	--	--	--	--	--	--	
Weber	267	56	--	--	65	40	--	--	--	--	--	
REGIONAL TOTALS	109	90	79	133	83	83	--	750	--	--	800	187
Central Region									--			
Juab	0	--	--	800	--	--	--	600	--	--	--	
Salt Lake	400	--	--	--	--	--	--	--	--	--	--	
Sanpete	1,400	--	14	4	--	23	25	--	--	--	--	
Tooele	206	1,000	1,000	233	--	200	--	350	--	--	--	
Utah	229	367	367	113	318	--	--	350	--	--	--	
Wasatch	0	--	--	--	--	9	150	--	--	--	--	
REGIONAL TOTALS	194	683	72	75	180	24	29	--	--	--	--	180
Southern Region									--			
Beaver	175	164	--	--	--	--	--	--	--	--	--	
Garfield	195		--	100	--	--	--	--	--	--	--	
Iron	1,200		--	--	--	--	--	--	--	--	--	
Kane	383	127	--	--	--	--	--	--	--	--	--	
Millard	525	100	--	--	--	--	--	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	275	738	--	--	--	--	--	--	--	--	--	
Washington	950	--	--	--	--	--	--	--	--	--	--	
Wayne	450	475	--	--	2,250	--	--	--	--	--	--	
REGIONAL TOTALS	309	247	--	200	2,250	--	--	--	--	--	--	752
Northeastern Region												
Daggett	1,255	230	265	286	--	1,400	--	--	200	248	183	
Duchesne	64	121	--	175	--	225	120	--	--	--	--	
Uintah	55	37	48	320	--	--	3,500	50	150	57	--	
REGIONAL TOTALS	286	120	95	46	--	500	370	8	157	137	183	191
Southeastern Region												
Carbon	--	--	--	--	--	240	--	--	--	--	--	
Emery	500	--	--	--	--	--	--	--	--	--	--	
Grand	300	--	89	--	300	540	875	467	--	--	--	
San Juan	400	--	400	--	600	600	457	--	--	--	--	
REGIONAL TOTALS	400	--	86	--	450	480	113	467	--	--	--	333
STATE TOTALS	197	166	81	93	112	130	48	384	157	157	663	153

Table 9. Summary of effort expended on forest grouse brood counts, 1997.

Region and County	Vehicle Miles	Hours of Effort			
		Vehicle	Horse	Walk	Total
Northern Region					
Box Elder	46	6	–	4	10
Cache	–	–	–	–	0
Davis	–	–	–	–	0
Morgan	–	–	–	–	0
Rich	–	–	–	–	0
Summit	–	–	–	–	0
Weber	–	–	–	–	0
REGIONAL TOTALS	46	6	0	4	10
Central Region					
Juab	–	–	–	–	0
Salt Lake	–	–	–	–	0
Sanpete	–	–	–	–	0
Tooele	–	–	–	–	0
Utah	–	–	–	–	0
Wasatch	–	–	–	–	0
REGIONAL TOTALS	0	0	0	0	0
Southern Region					
Beaver	–	–	–	–	0
Garfield	–	–	–	–	0
Iron	–	–	–	–	0
Kane	–	–	–	–	0
Millard	–	–	–	–	0
Piute	–	–	–	–	0
Sevier	–	–	–	–	0
Washington	–	–	–	–	0
Wayne	–	–	–	–	0
REGIONAL TOTALS	–	–	–	–	–
Northeastern Region					
Daggett	5	0.5	0	2	2.5
Duchesne	–	–	–	–	0
Uintah	–	–	–	–	0
REGIONAL TOTALS	5	0.5	0	2	2.5
Southeastern Region					
Carbon	–	–	–	–	0
Emery	–	–	–	–	0
Grand	–	–	–	–	0
San Juan	–	–	–	–	0
REGIONAL TOTALS	–	–	–	–	–
STATE TOTALS	51	6.5	0	6	12.5

Table 10. Summary of blue grouse hunter success and distribution of harvest and hunting pressure by region and county, 1997.

REGION AND COUNTY	SAMPLE SIZE*	HUNTER-DAYS AFIELD	BIRDS BAGGED	BIRDS PER HUNTER-DAY	% OF PRESSURE	% OF HARVEST
NORTHERN REGION						
BOX ELDER	10	935	602	0.64	4.66	3.69
CACHE	49	3,949	3,388	0.86	19.69	20.74
DAVIS	12	1,018	685	0.67	5.08	4.20
MORGAN	10	665	561	0.84	3.32	3.44
RICH	9	623	644	1.03	3.11	3.94
SUMMIT	11	727	644	0.89	3.63	3.94
WEBER	20	1,413	1,247	0.88	7.05	7.63
REGIONAL TOTALS	121	9,332	7,773	0.83	46.53	47.58
CENTRAL REGION						
JUAB	10	581	415	0.71	2.90	2.54
SALT LAKE	2	83	103	1.25	0.41	0.64
SANPETE	15	1,122	665	0.59	5.60	4.07
TOOELE	3	228	103	0.45	1.14	0.64
UTAH	36	2,764	1,725	0.62	13.78	10.56
WASATCH	16	1,060	1,018	0.96	5.29	6.23
REGIONAL TOTALS	82	5,840	4,032	0.69	29.12	24.68
SOUTHERN REGION						
BEAVER	3	228	270	1.18	1.14	1.65
GARFIELD	2	124	62	0.50	0.62	0.38
IRON	7	290	332	1.14	1.45	2.04
KANE	1	20	41	2.00	0.10	0.25
MILLARD	7	270	228	0.85	1.35	1.40
PIUTE	3	187	290	1.56	0.93	1.78
SEVIER	21	1,330	1,205	0.91	6.63	7.38
WASHINGTON	2	62	41	0.67	0.31	0.25
WAYNE	1	41	20	0.50	0.21	0.13
REGIONAL TOTALS	47	2,556	2,494	0.98	12.75	15.27
NORTHEASTERN REGION						
DAGGETT	2	103	41	0.40	0.52	0.25
DUCHESNE	9	685	332	0.48	3.42	2.04
UINTAH	16	997	1,018	1.02	4.97	6.23
REGIONAL TOTALS	27	1,787	1,392	0.78	8.91	8.52
SOUTHEASTERN REGION						
CARBON	2	103	145	1.40	0.52	0.89
EMERY	4	145	103	0.71	0.73	0.64
GRAND	3	103	166	1.60	0.52	1.02
SAN JUAN	3	187	228	1.22	0.93	1.40
REGIONAL TOTALS	12	540	644	1.19	2.69	3.94
UNKNOWN	0	0	0	0.00	0.00	0.00
STATE TOTALS	289	20,057	16,337	0.81	100.00	100.00

Total hunter trips from questionnaire returns.

Table 11. Summary of ruffed grouse hunter success and distribution of harvest and hunting pressure by region and county, 1997.

REGION AND COUNTY	SAMPLE SIZE*	HUNTER-DAYS AFIELD	BIRDS BAGGED	BIRDS PER HUNTER-DAY	% OF PRESSURE	% OF HARVEST
NORTHERN REGION						
BOX ELDER	12	1,226	1,143	0.93	6.37	7.69
CACHE	49	3,616	2,577	0.71	18.79	17.34
DAVIS	13	976	581	0.60	5.08	3.92
MORGAN	16	1,143	1,351	1.18	5.94	9.09
RICH	12	727	665	0.91	3.78	4.48
SUMMIT	17	1,226	1,039	0.85	6.37	6.99
WEBER	22	1,787	1,787	1.00	9.29	12.03
REGIONAL TOTALS	141	10,704	9,145	0.85	55.62	61.54
CENTRAL REGION						
JUAB	3	228	103	0.45	1.19	0.70
SALT LAKE	2	41	83	2.00	0.22	0.56
SANPETE	10	893	498	0.56	4.64	3.36
TOOELE	1	62	41	0.67	0.32	0.28
UTAH	27	3,242	1,725	0.53	16.85	11.61
WASATCH	21	1,475	1,184	0.80	7.67	7.97
REGIONAL TOTALS	64	5,944	3,637	0.61	30.89	24.48
BEAVER	1	41	41	1.00	0.22	0.28
GARFIELD	1	20	20	1.00	0.11	0.14
IRON	2	83	207	2.50	0.43	1.40
KANE	2	62	145	2.33	0.32	0.98
MILLARD	4	103	103	1.00	0.54	0.70
PIUTE	1	83	124	1.50	0.43	0.84
SEVIER	10	644	332	0.52	3.35	2.24
WASHINGTON	0	0	0	0.00	0.00	0.00
WAYNE	1	41	20	0.50	0.22	0.14
REGIONAL TOTALS	22	1,080	997	0.92	5.62	6.71
NORTHEASTERN REGION						
DAGGETT	2	103	41	0.40	0.54	0.28
DUCHESNE	4	332	103	0.31	1.73	0.70
UINTAH	9	769	727	0.95	4.00	4.90
REGIONAL TOTALS	15	1,205	872	0.72	6.26	5.87
SOUTHEASTERN REGION						
CARBON	2	124	103	0.83	0.65	0.70
EMERY	0	0	0	0.00	0.00	0.00
GRAND	1	83	41	0.50	0.43	0.28
SAN JUAN	1	103	62	0.60	0.54	0.42
REGIONAL TOTALS	4	311	207	0.67	1.62	1.40
UNKNOWN	0	0	0	0.00	0.00	0.00
STATE TOTALS	246	19,247	14,861	0.77	100.00	100.00

Total hunter trips from questionnaire returns.

Table 12. Summary of blue and ruffed grouse hunter success and distribution of harvest and hunting pressure by region and county, 1997.

REGION AND COUNTY	SAMPLE SIZE*	HUNTER-DAYS AFIELD	BIRDS BAGGED	BIRDS PER HUNTER-DAY	% OF PRESSURE	% OF HARVEST
NORTHERN REGION						
BOX ELDER	29	1,974	1,683	0.85	4.93	5.43
CACHE	113	6,879	5,736	0.83	17.19	18.50
DAVIS	30	1,787	1,267	0.71	4.47	4.09
MORGAN	27	1,600	1,995	1.25	4.00	6.43
RICH	32	1,475	1,413	0.96	3.69	4.56
SUMMIT	31	2,411	1,683	0.70	6.02	5.43
WEBER	49	3,013	3,034	1.01	7.53	9.79
REGIONAL TOTALS	311	19,143	16,815	0.88	47.82	54.22
CENTRAL REGION						
JUAB	17	831	498	0.60	2.08	1.61
SALT LAKE	9	561	187	0.33	1.40	0.60
SANPETE	23	1,517	997	0.66	3.79	3.22
TOOELE	11	1,351	103	0.08	3.37	0.34
UTAH	63	5,237	3,429	0.65	13.08	11.06
WASATCH	36	2,327	2,265	0.97	5.82	7.31
REGIONAL TOTALS	159	11,826	7,482	0.63	29.54	24.13
SOUTHERN REGION						
BEAVER	5	228	249	1.09	0.57	0.80
GARFIELD	7	311	83	0.27	0.78	0.27
IRON	13	540	540	1.00	1.35	1.74
KANE	4	145	187	1.29	0.36	0.60
MILLARD	15	623	332	0.53	1.56	1.07
PIUTE	6	332	415	1.25	0.83	1.34
SEVIER	40	2,348	1,517	0.65	5.87	4.89
WASHINGTON	3	124	41	0.33	0.31	0.13
WAYNE	5	187	41	0.22	0.47	0.13
REGIONAL TOTALS	98	4,842	3,408	0.70	12.10	10.99
NORTHEASTERN REGION						
DAGGETT	5	228	83	0.36	0.57	0.27
DUCHESNE	20	1,060	478	0.45	2.65	1.54
UINTAH	28	1,912	1,933	1.01	4.78	6.23
REGIONAL TOTALS	53	3,200	2,494	0.78	8.00	8.04
SOUTHEASTERN REGION						
CARBON	7	374	249	0.67	0.93	0.80
EMERY	4	166	83	0.50	0.42	0.27
GRAND	5	249	187	0.75	0.62	0.60
SAN JUAN	4	228	290	1.27	0.57	0.94
REGIONAL TOTALS	20	1,018	810	0.80	2.54	2.61
UNKNOWN	0	0	0	0.00	0.00	0.00
STATE TOTALS	641	40,032	31,011	0.77	100.00	100.00

Total hunter trips from questionnaire returns.

Table 13. Summary of forest grouse bagged per hunter-day by region and county, 1990-97

Region and County	Year							
	1990	1991	1992	1993	1994	1995	1996	1997
Northern Region								
Box Elder	0.97	0.69	1.15	0.18	0.80	0.92	1.03	0.85
Cache	0.75	0.92	0.94	0.41	0.88	0.71	1.38	0.83
Davis	1.02	0.84	0.59	0.18	0.45	0.64	1.51	0.71
Morgan	0.94	0.94	1.06	0.16	0.66	1.14	1.66	1.25
Rich	0.52	0.62	0.76	0.34	0.59	0.62	1.10	0.96
Summit	0.49	0.72	0.77	0.40	0.82	0.97	1.21	0.70
Weber	0.73	0.51	1.01	0.51	0.51	0.83	1.23	1.01
REGIONAL TOTALS	**0.74**	**0.76**	**0.92**	**0.37**	**0.72**	**0.80**	**1.33**	**0.88**
Central Region								
Juab	0.88	0.65	0.79	0.84	0.56	0.78	0.23	0.60
Salt Lake	0.81	0.55	1.00	0.41	0.87	0.52	0.48	0.33
Sanpete	0.82	0.98	0.78	0.65	0.86	0.48	0.67	0.66
Tooele	1.03	1.03	1.19	0.37	1.02	0.96	1.00	0.08
Utah	0.91	0.97	0.84	0.77	0.59	0.45	0.74	0.65
Wasatch	0.83	0.76	1.25	0.26	0.52	0.74	0.91	0.97
REGIONAL TOTALS	**0.90**	**0.89**	**0.92**	**0.52**	**0.70**	**0.61**	**0.76**	**0.63**
Southern Region								
Beaver	0.85	0.95	1.44	1.17	0.64	0.60	0.79	1.09
Garfield	0.74	0.83	0.48	0.27	0.29	0.40	0.83	0.27
Iron	0.69	0.57	0.78	0.93	0.78	0.78	0.38	1.00
Kane	0.81	0.61	1.45	1.25	0.80	1.75	0.50	1.29
Millard	1.49	0.98	1.59	0.86	0.77	0.60	0.75	0.53
Piute	1.25	1.00	0.75	1.32	0.20	0.80	1.52	1.25
Sevier	1.02	0.94	1.30	0.49	0.71	0.49	0.81	0.65
Washington	0.00	1.83	2.00	0.00	0.60	1.25	0.33	0.33
Wayne	0.86	0.59	1.29	0.71	0.45	0.50	0.13	0.22
REGIONAL TOTALS	**0.99**	**0.87**	**1.19**	**0.71**	**0.64**	**0.62**	**0.77**	**0.70**
Northeastern Region								
Daggett	0.81	0.97	1.03	0.85	0.58	0.56	1.56	0.36
Duchesne	0.69	0.78	0.68	0.31	0.57	0.86	0.90	0.45
Uintah	1.09	1.00	1.01	0.66	0.53	1.30	1.01	1.01
REGIONAL TOTALS	**0.93**	**0.93**	**0.94**	**0.59**	**0.55**	**1.00**	**1.08**	**0.78**
Southeastern Region								
Carbon	0.47	0.64	0.83	0.73	0.78	1.60	0.38	0.67
Emery	0.81	0.78	0.88	0.18	0.48	0.17	0.47	0.50
Grand	1.12	2.14	0.52	1.12	0.00	0.50	0.31	0.75
San Juan	0.83	0.45	1.57	1.50	1.20	0.43	0.71	1.27
REGIONAL TOTALS	**0.69**	**0.77**	**0.79**	**0.54**	**0.67**	**0.56**	**0.41**	**0.80**
Unknown counties	0.00	0.00	0.00	0.44	0.00	0.41	1.00	0.00
STATE TOTALS	0.83	0.82	0.96	0.50	0.69	0.73	1.06	0.77

Table 14. Percentage distribution of forest grouse harvest by region and county, 1990-97

Region and County	Year							
	1990	1991	1992	1993	1994	1995	1996	1997
Northern Region								
Box Elder	6.51	5.53	4.83	1.99	6.15	4.84	2.53	4.93
Cache	15.47	17.45	17.65	12.36	19.01	20.69	26.36	17.19
Davis	3.28	2.89	2.48	0.63	1.68	2.82	4.70	4.47
Morgan	3.28	3.29	2.75	0.84	2.52	3.76	8.44	4.00
Rich	2.89	3.74	3.19	2.72	2.70	2.42	3.97	3.69
Summit	3.45	6.83	3.83	3.77	8.67	8.40	5.48	6.02
Weber	8.07	5.03	9.82	9.11	7.18	9.94	12.13	7.53
REGIONAL TOTALS	**42.96**	**44.77**	**44.55**	**31.41**	**47.90**	**52.86**	**63.61**	**47.82**
Central Region								
Juab	0.78	0.75	1.48	1.68	0.47	1.41	0.19	2.08
Salt Lake	0.72	0.80	2.12	0.94	1.86	1.14	0.89	1.40
Sanpete	5.40	4.34	3.31	4.19	5.69	2.69	1.71	3.79
Tooele	6.68	4.04	2.52	3.98	4.94	3.02	2.02	3.37
Utah	8.74	7.48	10.38	10.47	6.90	4.63	6.84	13.08
Wasatch	2.89	4.44	4.59	3.14	4.19	6.85	5.40	5.82
REGIONAL TOTALS	**25.21**	**21.83**	**24.39**	**24.40**	**24.04**	**19.75**	**17.07**	**29.54**
Southern Region								
Beaver	1.61	2.59	2.08	2.20	1.68	1.75	0.86	0.57
Garfield	1.45	1.00	0.84	1.36	0.37	0.67	0.74	0.78
Iron	1.39	1.94	1.56	7.96	1.68	2.55	0.82	1.35
Kane	0.72	0.95	1.28	1.57	0.37	1.41	0.12	0.36
Millard	2.89	2.24	3.23	3.35	2.14	0.60	0.58	1.56
Piute	3.34	2.04	0.84	3.46	0.37	1.07	1.83	0.83
Sevier	7.90	10.27	10.70	6.39	8.20	4.97	5.60	5.87
Washington	0.00	0.55	0.48	0.00	0.56	0.34	0.16	0.31
Wayne	1.00	0.65	0.72	1.78	0.47	0.20	0.04	0.47
REGIONAL TOTALS	**20.31**	**22.23**	**21.72**	**28.06**	**15.84**	**13.57**	**10.73**	**12.10**
Northeastern Region								
Daggett	1.39	1.65	1.28	1.78	2.70	1.68	1.94	0.57
Duchesne	1.39	2.24	1.20	1.36	1.58	2.48	2.02	2.65
Uintah	4.90	4.99	4.67	7.12	3.91	7.52	3.07	4.78
REGIONAL TOTALS	**7.68**	**8.87**	**7.15**	**10.26**	**8.20**	**11.69**	**7.04**	**8.00**
Southeastern Region								
Carbon	1.34	0.70	0.20	1.15	1.68	0.54	0.19	0.93
Emery	1.17	0.35	0.92	0.73	1.21	0.07	0.27	0.42
Grand	1.06	0.75	0.64	1.99	0.00	0.54	0.54	0.62
San Juan	0.28	0.50	0.44	0.31	1.12	0.40	0.39	0.57
REGIONAL TOTALS	**3.84**	**2.29**	**2.20**	**4.19**	**4.01**	**1.54**	**1.40**	**2.54**
Unknown counties	0.00	0.00	0.00	1.68	0.00	0.60	0.16	0.00
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 15. Percentage distribution of forest grouse hunting pressure by region and county, 1990-97.

Region and County	Year							
	1990	1991	1992	1993	1994	1995	1996	1997
Northern Region								
Box Elder	5.60	6.59	4.04	5.48	5.30	3.84	2.60	4.93
Cache	17.22	15.55	18.07	14.88	14.76	21.23	20.24	17.19
Davis	2.69	2.82	4.04	1.78	2.56	3.25	3.30	4.47
Morgan	2.92	2.86	2.50	2.66	2.62	2.41	5.40	4.00
Rich	4.63	4.95	4.04	3.97	3.13	2.86	3.83	3.69
Summit	5.83	7.73	4.78	4.75	7.28	6.35	4.82	6.02
Weber	9.21	8.10	9.36	8.93	9.71	8.77	10.43	7.53
REGIONAL TOTALS	**48.10**	**48.61**	**46.84**	**42.45**	**45.37**	**48.72**	**50.62**	**47.82**
Central Region								
Juab	0.74	0.94	1.81	0.99	0.58	1.33	0.91	2.08
Salt Lake	0.74	1.19	2.04	1.15	1.47	1.63	1.98	1.40
Sanpete	5.51	3.64	4.08	3.24	4.54	4.09	2.72	3.79
Tooele	5.42	3.23	2.04	5.33	3.32	2.32	2.14	3.37
Utah	8.01	6.34	11.98	6.79	8.05	7.54	9.85	13.08
Wasatch	2.92	4.79	3.54	6.11	5.50	6.75	6.27	5.82
REGIONAL TOTALS	**23.33**	**20.13**	**25.50**	**23.60**	**23.45**	**23.65**	**23.87**	**29.54**
Southern Region								
Beaver	1.57	2.25	1.39	0.94	1.79	2.12	1.15	0.57
Garfield	1.62	0.98	1.69	2.56	0.89	1.23	0.95	0.78
Iron	1.67	2.82	1.93	4.28	1.47	2.41	2.27	1.35
Kane	0.74	1.27	0.85	0.63	0.32	0.59	0.25	0.36
Millard	1.62	1.88	1.96	1.93	1.92	0.74	0.82	1.56
Piute	2.22	1.68	1.08	1.31	1.28	0.99	1.28	0.83
Sevier	6.44	8.92	7.94	6.53	7.92	7.39	7.30	5.87
Washington	0.23	0.25	0.23	0.16	0.64	0.20	0.49	0.31
Wayne	0.97	0.90	0.54	1.25	0.70	0.30	0.33	0.47
REGIONAL TOTALS	**17.08**	**20.95**	**17.60**	**19.58**	**16.93**	**15.96**	**14.84**	**12.10**
Northeastern Region								
Daggett	1.44	1.39	1.19	1.04	3.19	2.22	1.32	0.57
Duchesne	1.67	2.37	1.69	2.19	1.92	2.12	2.39	2.65
Uintah	3.75	4.09	4.47	5.38	5.05	4.24	3.22	4.78
REGIONAL TOTALS	**6.85**	**7.86**	**7.36**	**8.62**	**10.16**	**8.57**	**6.93**	**8.00**
Southeastern Region								
Carbon	2.36	0.90	0.23	0.78	1.47	0.25	0.54	0.93
Emery	1.20	0.37	1.00	2.09	1.73	0.30	0.62	0.42
Grand	0.79	0.29	1.19	0.89	0.26	0.79	1.85	0.62
San Juan	0.28	0.90	0.27	0.10	0.64	0.69	0.58	.57
REGIONAL TOTALS	**4.63**	**2.45**	**2.70**	**3.86**	**4.09**	**2.02**	**3.59**	**2.54**
Unknown counties	0.00	0.00	0.00	1.88	0.00	1.08	0.16	0.00
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 16. Statewide summary of forest grouse harvest statistics, 1963-97.

	Total	Total Harvest								Grouse/Hunter-Day			Grouse/Hunter		
Year	Hunters	Ruffed	Percent	Blue	Percent	Unknown	Percent	Harvest	Hunter-Days Afield	Ruffed	Blue	Total	Ruffed	Blue	Total
1963	7,425	5,470	40.20	7,372	54.17	766	5.63	13,608	12,313	0.44	0.66	1.11	0.74	0.99	1.83
1964	6,487	5,354	42.19	6,685	52.68	652	5.14	12,691	10,566	0.51	0.63	1.20	0.82	1.03	1.96
1965	6,005	3,225	37.20	4,924	56.80	520	6.00	8,669	10,504	0.31	0.47	0.83	0.54	0.82	1.44
1966	6,683	6,966	56.54	4,659	37.81	696	5.65	12,321	12,387	0.56	0.38	0.99	1.04	0.68	1.84
1967	9,420	8,476	48.36	6,773	38.65	2,277	12.99	17,526	17,773	0.48	0.38	0.99	0.87	0.69	1.86
1968	13,061	17,048	52.59	12,604	38.88	2,762	8.52	32,414	26,537	0.64	0.47	1.22	1.30	0.96	2.48
1969	12,523	9,490	44.14	10,419	48.46	1,589	7.39	21,498	24,572	0.38	0.42	0.87	0.76	0.83	1.72
1970	12,775	15,590	48.87	13,515	42.37	2,793	8.76	31,898	26,619	0.59	0.51	1.20	1.22	1.06	2.50
1971	13,363	15,759	49.40	13,749	43.10	2,393	7.50	31,901	29,100	0.54	0.47	1.10	1.18	1.03	2.39
1972	16,640	20,648	48.56	19,221	45.21	2,649	6.23	42,518	38,940	0.53	0.49	1.09	1.24	1.16	2.56
1973	17,588	7,153	15.81	36,846	81.46	1,233	2.73	45,232	44,738	0.16	0.82	1.01	0.41	2.09	2.57
1974	21,920	24,561	39.34	32,236	51.63	5,642	9.04	62,439	55,258	0.44	0.58	1.13	1.12	1.47	2.85
1975	20,102	15,750	37.09	23,138	54.49	3,573	8.41	42,461	50,579	0.31	0.45	0.84	0.78	1.15	2.11
1976	21,186	23,551	37.13	35,660	56.21	4,225	6.66	63,436	56,422	0.42	0.63	1.12	1.11	1.68	2.99
1977	19,188	15,766	37.12	23,455	55.22	3,256	7.67	42,477	48,746	0.37	0.48	0.87	0.82	1.22	2.21
1978	25,318	30,340	37.20	46,651	57.20	4,567	5.60	81,558	72,732	0.42	0.64	1.12	1.20	1.84	3.22
1979	21,993	23,156	38.69	33,070	55.25	3,625	6.06	59,851	57,404	0.40	0.58	1.04	1.05	1.50	2.61
1980	19,511	15,457	33.96	27,588	60.60	2,477	5.44	45,522	49,899	0.31	0.55	0.91	0.79	1.41	2.33
1981	14,329	8,557	30.68	17,852	64.00	1,485	5.32	27,894	34,305	0.25	0.52	0.81	0.60	1.25	1.95
1982	12,384	7,509	34.48	12,138	55.74	2,131	9.79	21,778	28,767	0.26	0.42	0.76	0.60	0.98	1.76
1983	13,414	11,366	37.78	16,955	56.35	1,767	5.87	30,088	34,530	0.33	0.49	0.87	0.84	1.26	2.24
1984	11,511	6,780	33.24	12,647	62.01	969	4.75	20,396	27,244	0.25	0.46	0.75	0.59	1.10	1.77
1985	12,646	8,701	37.67	13,416	58.09	980	4.24	23,097	31,290	0.28	0.43	0.74	0.69	1.06	1.83
1986	12,117	8,819	36.95	14,156	59.31	894	3.75	23,869	30,312	0.29	0.47	0.79	0.73	1.17	1.97
1987	14,831	15,811	34.88	28,068	61.92	1,447	3.19	45,326	41,428	0.38	0.68	1.09	1.07	1.89	3.06
1988	16,947	19,100	35.66	31,556	58.91	2,906	5.43	53,562	51,726	0.37	0.61	1.04	1.13	1.86	3.16
1989	16,987	16,323	35.88	27,794	61.10	1,370	3.01	45,487	50,631	0.32	0.55	0.90	0.96	1.64	2.68
1990	14,591	11,010	28.29	26,115	67.10	1,797	4.62	38,922	44,452	0.25	0.59	0.83	0.75	1.79	2.53
1991	14,421	12,073	34.60	21,310	61.07	1,514	4.34	34,897	42,517	0.35	0.50	0.82	0.84	1.48	2.42
1992	15,000	15,017	33.73	29,146	65.47	355	0.80	44,518	46,136	0.33	0.63	0.96	1.00	1.94	2.97
1993	12,029	6,650	36.65	11,040	60.84	457	2.52	18,147	36,390	0.18	0.30	0.50	0.55	0.92	1.51
1994	9,827	6,908	36.62	11,865	62.90	89	0.47	18,862	27,510	0.25	0.43	0.68	0.70	1.21	1.91
1995	10,088	13,140	44.83	16,172	55.17	0*	0.00	29,312	35,591	0.77	0.87	0.82	2.79	3.00	2.91
1996	14,702	29,567	48.53	31,355	51.47	0*	0.00	60,922	62,711	0.97	0.97	0.97	4.16	4.13	4.14
1997	10,206	14,861	47.63	16,337	52.37	0*	0.00	31,198	39,304	0.77	0.81	0.79	3.11	3.01	3.06
Totals (1963-97)	497,218	475,952	–	696,487	–	63,856	–	1,236,295	1,309,933	–	–	–	–	–	–
Averages (1963-96)	14,324	13,562	38.97	20,004	55.64	1,878	5.73	35,444	37,371	0.40	0.55	0.94	1.03	1.42	2.36

*Not Calculated

Table 17. Blue and ruffed grouse harvest statistics and hunt regulations, 1963-1997.

Year	Total Ruffed Grouse Harvest	Total Blue Grouse Harvest	Total Forest Grouse Harvest	Total Hunters Afield	Total Hunter Days Afield	Season Length			Aggregate Bag Limits	
						Open	Close	Days	Daily	Possession
1963	5,470	7,372	13,608	7,425	12,313	?	?	?**	4	8
1964	5,354	6,685	12,691	6,487	10,566	9/26	10/16	21	4	8
1965	3,225	4,924	8,669	6,005	105,074	9/25	10/22	28	4	8
1966	6,966	4,659	12,321	6,683	12,387	9/24	10/21	28	4	8
1967	8,476	6,773	17,526	9,420	17,773	9/23	10/31	39	4	8
1968	17,048	12,604	32,414	13,061	26,537	9/28	10/29	32	4	8
1969	9,490	10,419	21,498	12,523	24,572	9/27	11/02	37	4	8
1970	15,590	13,515	31,898	12,775	26,619	9/26	11/06	42	4	8
1971	15,759	13,749	31,901	13,363	29,100	9/25	11/30	67	4	8
1972	20,648	19,221	42,518	16,640	38,940	9/23	11/30	69	4	8
1973	7,153	36,846	45,232	17,588	44,738	9/22	11/30	70	4	8
1974	24,561	32,236	62,439	21,920	55,258	9/28	11/30	64	4	8
1975	15,750	23,138	42,461	20,102	50,579	9/20	11/30	72	4	8
1976	23,551	35,660	63,436	21,186	56,422	9/18	11/30	74	4	8
1977	15,766	23,455	42,477	19,188	48,746	9/17	11/30	75	4	8
1978	30,340	46,651	81,558	25,318	72,732	9/16	11/30	76	4	8
1979	23,156	33,070	59,851	21,993	57,404	9/15	11/30	77	4	8
1980	15,457	27,588	45,522	19,511	49,899	9/20	11/30	72	4	8
1981	8,557	17,852	27,894	14,329	34,305	9/19	11/30	73	4	8
1982	7,509	12,138	21,778	12,384	28,767	9/18	11/30	74	4	8
1983	11,366	16,955	30,088	13,414	34,530	9/17	11/30	75	4	8
1984	6,780	12,647	20,396	11,511	27,244	9/15	11/30	77	4	8
1985	8,701	13,416	23,097	12,646	31,290	9/14	11/30	78	4	8
1986	8,819	14,156	23,869	12,117	30,312	9/13	11/30	79	4	8
1987	15,811	28,068	45,326	14,831	41,428	9/12	11/30	80	4	8
1988	19,100	31,556	53,562	16,947	51,726	9/11	11/30	82	4	8
1989	16,323	27,794	45,487	16,987	50,631	9/09	11/30	82	4	8
1990	11,010	26,115	38,922	14,591	44,452	9/08	11/30	82	4	8
1991	12,073	21,310	34,897	14,421	42,517	9/14	11/30	77	4	8
1992	15,017	29,146	44,518	15,000	46,136	9/12	11/30	79	4	8
1993	6,650	11,040	18,147	12,029	36,390	9/11	11/30	82	4	8
1994	6,908	11,865	18,862	9,827	27,510	9/10	11/30	81	4	8
1995	13,140	16,172	29,312	10,088	35,591	9/9	11/30	82	4	8
1996	29,567	31,355	60,922	14,702	62,711	9/7	11/30	84	4	8
1997	14,861	16,337	31,198	10,206	39,304	9/12	11/30	80	4	8

** From 1950 to 1963 a grouse stamp was requried to hunt any grouse. In 1964, the entire state was opened to hunting without a stamp.

Table 18. Forest grouse field bag check summary, 1997.

Region and County	ALL HUNTS					COMPLETE HUNTS					
	Total Parties	Total Hunters	Total Hours	Total Birds	Birds/ 100 Hr	Complete Hunts	Total Hunters	Total Hours	Total Birds	Birds/ Hunter	Birds/ 100 Hr
Northern Region											
Box Elder	--	--	--	--	--	--	--	--	--	--	--
Cache	42	89	132.0	25	19	42	89	132.0	25	0.28	19
Davis	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--
Weber	57	124	252.5	28	11	57	124	252.5	28	0.23	11
REGIONAL TOTALS	99	213	384.5	53	14	99	213	384.5	53	0.25	14
Central Region											
Juab	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	3	5	13.5	1	7	2	4	12.0	0	0.00	0
Southern Region											
Beaver	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Northeastern Region											
Daggett	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Southeastern Region											
Carbon	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--
Grand	5	9	7.5	9	120	5	9	7.5	9	1.00	120
San Juan	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	5	9	7.5	9	120	5	9	7.5	9	1.00	120
STATE TOTALS	107	227	405.5	63	16	106	226	404.0	62	0.27	15

Table 19. Forest grouse hunter success trend as determined by field bag checks, 1992-97.

Region and County	1992		1993		1994		1995		1996		1997	
	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr
Northern Region												
Box Elder	--	--	--	--	--	--	0.27	4	0.17	4	--	--
Cache	0.58	--	--	--	0.59	14	0.43	8	1.28	35	0.28	19
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	0.77	--	--	--	0.59	15	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	1.23	31	0.23	11
REGIONAL TOTALS	0.70	--	--	--	0.59	14	0.42	8	1.19	31	0.25	14
Central Region			--	--								
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	0.82	18	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	0.82	18	--	--	--	--	--	--	--	--	0.00	0
Southern Region			--	--								
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
Northeastern Region			--	--								
Daggett	1.17	50	--	--	--	--	0.13	5	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	1.50	100	--	--	0.25	7	0.00	0	--	--	--	--
REGIONAL TOTALS	1.25	59	--	--	0.25	7	0.12	4	--	--	--	--
Southeastern Region			--	--								
Carbon	--	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	1.00	120
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	1.00	120
STATE TOTALS	0.74	87	--	--	0.53	13	0.40	8	1.19	31	0.27	15

Table 20. Sex and age composition of harvested ruffed grouse, 1997.

Region and County	Sample Size	Adults			Young			Young/ 100 Adults	Young/ 100 Hens
		M	F	Total	M	F	Total		
Northern Region									
Box Elder	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--
Central Region									
Juab	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	43	--	--	16	--	--	27	169	--
Southern Region									
Beaver	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--
Northeastern Region									
Daggett	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--
Southeastern Region									
Carbon	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--
STATE TOTALS	43	--	--	16	--	--	27	169	--

Table 21. Sex and age composition of harvested blue grouse, 1997.

Region and County	Sample Size	Adults			Young			Young/ 100 Adults	Young/ 100 Hens
		M	F	Total	M	F	Total		
Northern Region									
Box Elder	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--
Central Region									
Juab	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	42	6	3	9	19	14	33	367	1,100
Southern Region									
Beaver	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--
Northeastern Region									
Daggett	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--
Southeastern Region									
Carbon	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--
STATE TOTALS	42	6	3	9	19	14	33	367	1,100

Statewide harvest statistics, when compared to 1996, showed a decrease in total hunters and in total harvest. Hunter success (birds per hunter-day) decreased 17 percent and remained below average statewide. Hunter-days afield decreased 31 percent from 1996.

California quail are found primarily in urban areas of Utah. Hunter access to these birds is limited.

Figure 1. Statewide trends of quail harvest statistics, 1959-97.

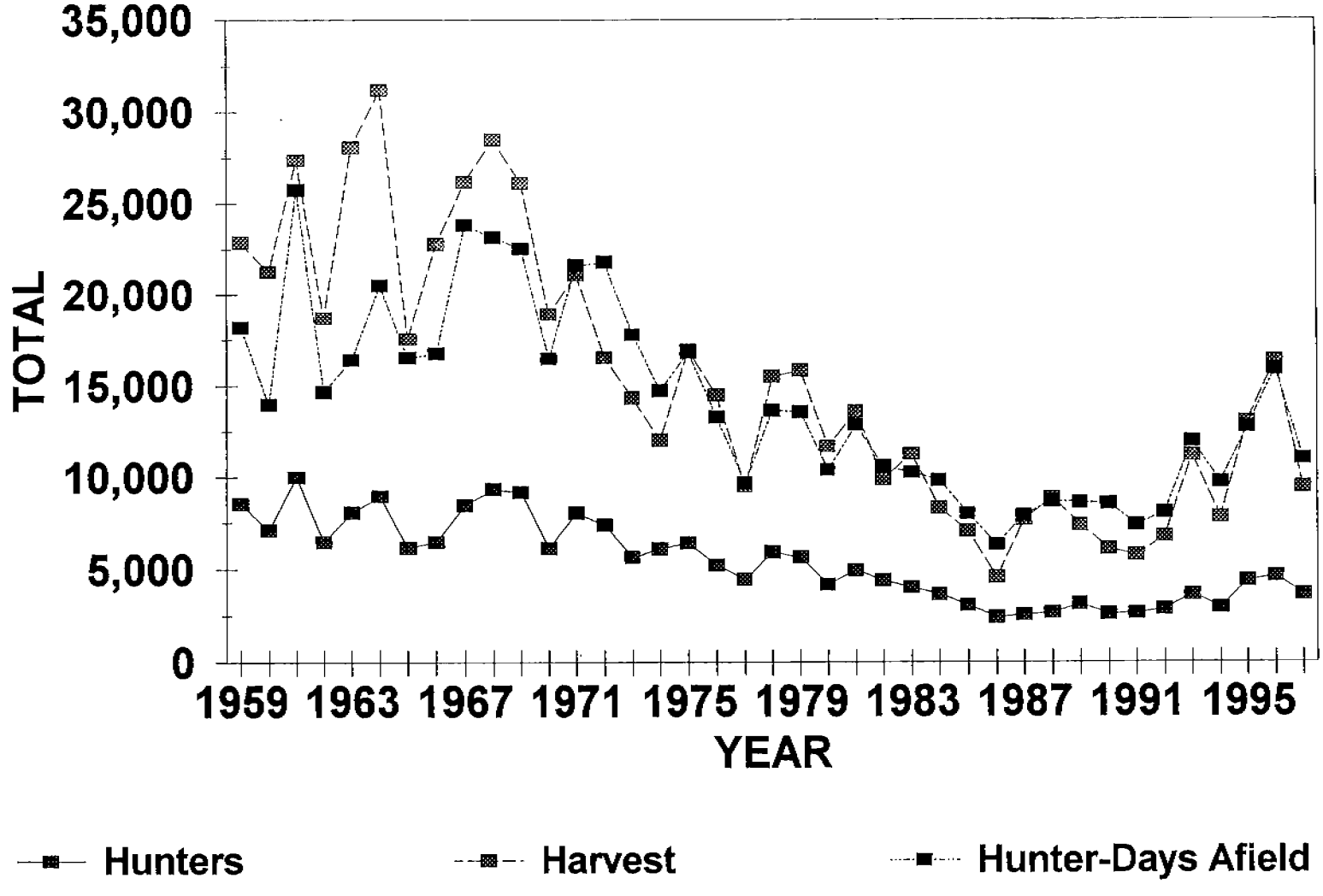
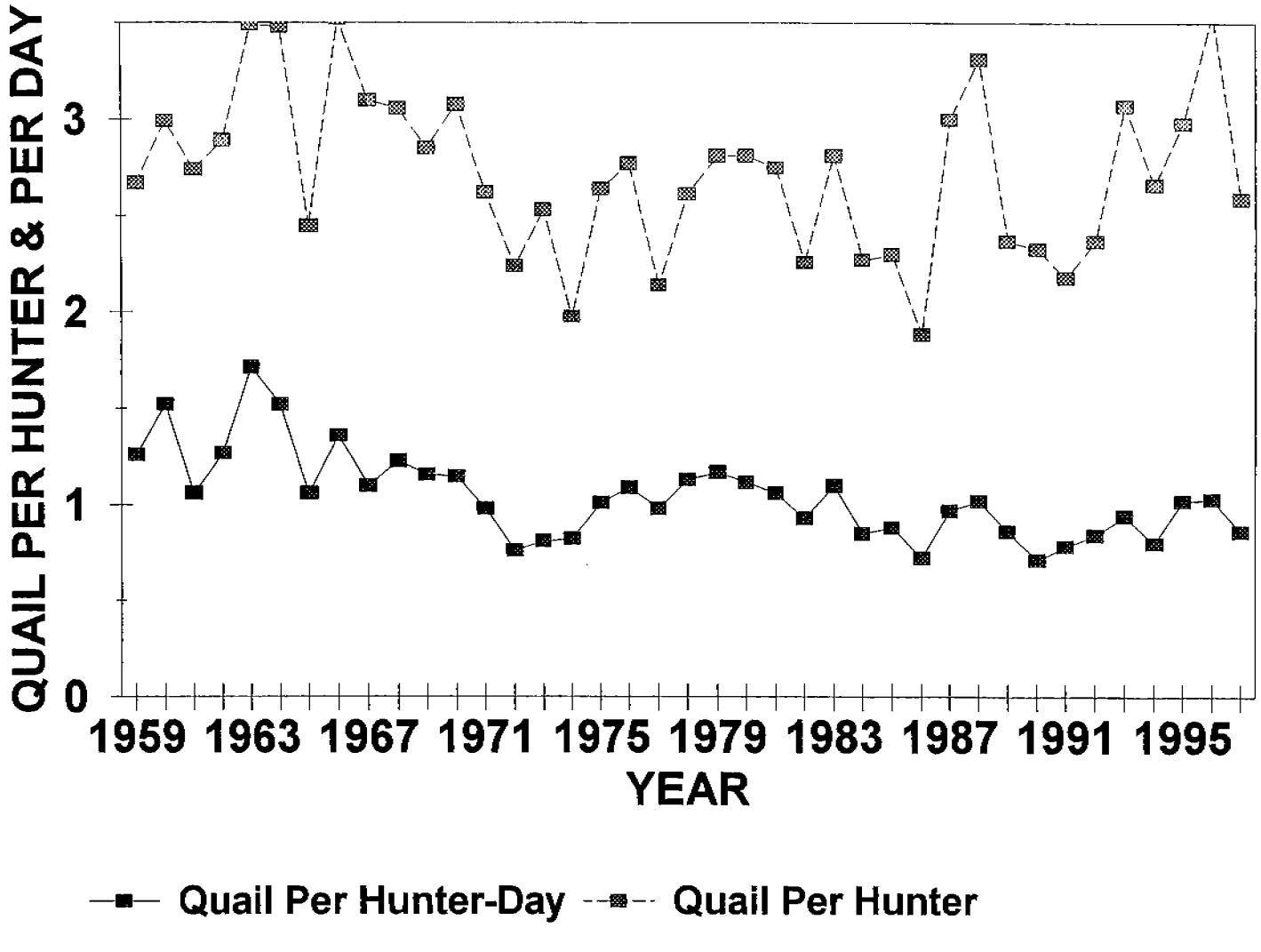


Figure 2. Statewide trends of quail hunter success rates, 1959-97.



Brood Counts

Results of the annual random brood counts for quail for 1997 are shown in Table 1 of this section. Long-term trends of young per adult ratios, mean brood size and quail observed per 100 hours are shown in Tables 2-4. Gambel's quail long period waterhole count trends are shown in Table 10. Survey results for 1997 compared to 1996 and the 10-year (1987-96) average follow:

	1997	Percent change from 1996	Percent change from Average
Total quail observed	82	--	-72
Young per 100 adults	290	--	-5
Mean brood size	6.67	--	-7
Quail observed per 100 hours	2,343	--	+16
Total hours effort	3.5	--	-81

Harvest

Results of the annual hunter questionnaire for 1997 are shown in Table 5. Long-term trends of quail bagged per hunter-day, percent of harvest and percent of pressure (hunter-days) by county are found in Tables 6-8, and total statewide harvest statistics in Table 9.

Comparison of the 1997 season to 1996 and the 38-year average follow:

	1997	Percent change from 1996	Percent change from Average
Quail hunters	3,637	-21	-31
Quail harvested	9,436	-42	-35
Hunter-days afield	11,016	-31	-18
Quail per hunter-day	0.86	-17	-18
Quail per hunter	2.59	-27	-2

Quail hunters decreased 21 percent from 1996, and remain 31 percent below the long-term average. Quail harvest decreased 42 percent from 1996.

Long-term quail harvest statistics are shown in Figures 1 and 2.

Field Bag Checks

No field bag check data was collected in 1997 as shown in Table 11.

Table 1. Quail summer inventory, 1997.

Region and County	Distinct Broods #	Distinct Broods Adults	Distinct Broods Young	Mean Brood	Mixed Young & Adults Adults	Mixed Young & Adults Young	Adults w/o Young	Total Adults	Total Young	Young/ 100 Adults	Vehicle Miles	Hours of Effort Vehicle	Hours of Effort Horse	Hours of Effort Walk	Hours of Effort Total	Birds/ 100 Hr
Northern Region																
Box Elder	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Central Region																
Juab	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Southern Region																
Beaver	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kane*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Washington*	6	5	40	6.67	--	21	16	21	61	290	--	3.5	--	--	3.5	2,343
Wayne*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	6	5	40	6.67	0	21	16	21	61	290	0	3.5	0	0	3.5	2,343
Northeastern Region	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Southeastern Region	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STATE TOTALS	6	5	40	6.67	0	21	16	21	61	290	0	3.5	0	0	3.5	2,343

*Washington, Kane and Wayne Counties, Gambel's quail; all others, California quail.

Table 2. Trend of quail young per 100 adults, 1987-97.

Region and County	Year											Average
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1987-1996
Northern Region												
Box Elder	--	--	--	--	--	--	--	--	--	--	--	
Cache	--	--	--	--	--	--	--	--	--	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	1,400	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	1,400	224	--	656	--	--	--	--	--	--	--	760
Central Region										--		
Juab	--	--	--	--	--	--	--	--	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	--	--	--	--	--	--	--	--	--	--	
Tooele	--	--	--	--	--	--	--	--	--	--	--	
Utah	220	--	--	--	900	--	--	--	--	--	--	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	220	--	--	--	900	--	--	--	--	--	--	560
Southern Region										--		
Beaver	--	--	--	--	--	--	--	--	--	--	--	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	--	--	--	--	--	--	--	--	--	--	--	
Kane*	--	--	--	--	--	--	--	--	--	--	--	
Millard	545	790		179	--	--	--	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	--	--	--	--	--	--	--	--	--	--	--	
Washington*	250	126	194	367	--	--	294	132	194	--	290	
Wayne*	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	272	242	194	252	--	--	294	132	194	--	290	226
Northeastern Region										--	--	
Daggett	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	--	300	--	--	375	--	400	--	--	--	--	
Uintah	--	126	420	667	--	370	333	--	145	--	--	
REGIONAL TOTALS	--	177	420	667	375	370	336	--	145	--	--	356
Southeastern Region										--	--	
Carbon	--	--	--	--	--	767	--	--	--	--	--	
Emery	--	--	--	--	--	--	--	--	--	--	--	
Grand	--	--	--	--	--	--	--	--	--	--	--	
San Juan	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	--	--	--	--	--	767	--	--	--	--	--	767
STATE TOTALS	331	276	220	391	480	462	299	132	163	--	290	306

*Washington, Kane and Wayne Counties, Gambel's quail; all others, California quail.

Table 3. Trend of average brood size for quail, 1987-97.

Region and County	Year											Average
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1987-96
Northern Region												
Box Elder	--	--	--	--	--	--	--	--	--	--	--	
Cache	--	--	--	--	--	--	--	--	--	--	--	
Davis	--	6.33	--	11.80	--	--	--	--	--	--	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	14.00	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	14.00	5.33	--	11.80	--	--	--	--	--	--	--	10.38
Central Region												
Juab	--	--	--	--	--	--	--	--	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	--	--	--	--	--	--	--	--	--	--	
Tooele	--	--	--	--	--	--	--	--	--	--	--	
Utah	11.00	--	--	--	9.00	--	--	--	--	--	--	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	11.00	--	--	--	9.00	--	--	--	--	--	--	10.00
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	--	--	--	--	--	--	--	--	--	--	--	
Kane*	--	--	--	--	--	--	--	--	--	--	--	
Millard	12.00	11.28	--	12.50	--	--	--	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	--	--	--	--	--	--	--	--	--	--	--	
Washington*	5.59	4.64	--	11.00	--	--	6.05	6.00	6.60	--	6.67	
Wayne*	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	6.16	7.22	--	11.00	--	--	6.05	6.00	6.60	--	6.67	7.17
Northeastern Region										--	--	
Daggett	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	--	9.00	--	--	--	--	4.00	--	--	--	--	
Uintah	--	8.50	4.50	6.70	--	7.40	7.00	--	7.50	--	--	
REGIONAL TOTALS	--	8.15	4.50	6.70	--	7.40	6.25	--	7.50	--	--	6.75
Southeastern Region										--	--	
Carbon	--	--	--	--	--	7.67	--	--	--	--	--	
Emery	--	--	--	--	--	--	--	--	--	--	--	
Grand	--	--	--	--	--	--	--	--	--	--	--	
San Juan	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	--	--	--	--	--	7.67	--	--	--	--	--	7.67
STATE TOTALS	6.62	7.25	4.50	10.45	9.00	7.50	6.07	6.00	6.86	--	6.67	7.14

*Washington, Kane and Wayne Counties, Gambel's quail; all others, California quail.

Table 4. Trend of quail observed per 100 hours, 1987-97.

Region and County	Year											Average
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1987-96
Northern Region												
Box Elder	--	--	--	--	--	--	--	--	--	--	--	
Cache	--	--	--	--	--	--	--	--	--	--	--	
Davis	--	1,100	--	--	--	--	--	--	--	--	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	1,500	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	1,500	1,100	--	--	--	--	--	--	--	--	--	1,300
Central Region										--		
Juab	--	--	--	--	--	--	--	--	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	--	--	--	--	--	--	--	--	--	--	
Tooele	--	--	--	--	--	--	--	--	--	--	--	
Utah	1,600	--	--	--	1,000	--	--	--	--	--	--	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	1,600	--	--	--	1,000	--	--	--	--	--	--	1,300
Southern Region										--		
Beaver	--	--	--	--	--	--	--	--	--	--	--	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	--	--	--	--	--	--	--	--	--	--	--	
Kane*	--	--	--	--	--	--	--	--	--	--	--	
Millard	1,303	1,271	--	975	--	--	--	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	--	--	--	--	--	--	--	--	--	--	--	
Washington*	2,029	530	53	1,050	--	--	7,788	2,963	1,250	--	2,343	
Wayne*	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	1,958	527	53	1,013	--	--	7,788	2,963	1,250	--	2,343	2,384
Northeastern Region										--	--	
Daggett	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	--	356	--	--	475	--	250	--	--	--	--	
Uintah	--	1,800	371	767	--	4,700	3,033	--	1,520	--	--	
REGIONAL TOTALS	--	717	371	767	475	4,700	1,920	--	1,520	--	--	1,496
Southeastern Region										--	--	
Carbon	--	--	--	--	--	1,300	--	--	--	--	--	
Emery	--	--	--	--	--	--	--	--	--	--	--	
Grand	--	--	--	--	--	--	--	--	--	--	--	
San Juan	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	--	--	--	--	--	1,300	--	--	--	--	--	1,300
STATE TOTALS	1,984	622	524	1,564	580	2,433	5,531	2,963	1,400	--	2,343	2,025

*Washington, Kane and Wayne Counties, Gambel's quail; all others, California quail.

Table 5. Summary of quail hunter success and distribution of harvest and hunting pressure by region and county, 1997.

REGION AND COUNTY	SAMPLE SIZE*	HUNTER-DAYS AFIELD	BIRDS BAGGED	BIRDS PER HUNTER-DAY	% OF PRESSURE	% OF HARVEST
NORTHERN REGION						
BOX ELDER	3	124	0	0.00	1.13	0.00
CACHE	2	103	41	0.40	0.94	0.44
DAVIS	6	519	394	0.76	4.72	4.19
MORGAN	0	0	0	0.00	0.00	0.00
RICH	0	0	0	0.00	0.00	0.00
SUMMIT	0	0	0	0.00	0.00	0.00
WEBER	9	415	166	0.40	3.77	1.76
REGIONAL TOTALS	20	1,163	602	0.52	10.57	6.39
CENTRAL REGION						
JUAB	2	83	20	0.25	0.75	0.22
SALT LAKE	2	62	83	1.33	0.57	0.88
SANPETE	1	41	62	1.50	0.38	0.66
TOOELE	3	249	0	0.00	2.26	0.00
UTAH	23	1,330	831	0.63	12.08	8.81
WASATCH	2	103	0	0.00	0.94	0.00
REGIONAL TOTALS	33	1,870	997	0.53	16.98	10.57
SOUTHERN REGION						
BEAVER	0	0	0	0.00	0.00	0.00
GARFIELD	1	20	0	0.00	0.19	0.00
IRON	0	0	0	0.00	0.00	0.00
KANE	0	0	0	0.00	0.00	0.00
MILLARD	8	457	436	0.95	4.15	4.63
PIUTE	0	0	0	0.00	0.00	0.00
SEVIER	6	249	83	0.33	2.26	0.88
WASHINGTON	28	1,870	1,579	0.84	16.98	16.74
WAYNE	1	20	20	1.00	0.19	0.22
REGIONAL TOTALS	44	2,618	2,120	0.81	23.77	22.47
NORTHEASTERN REGION						
DAGGETT	0	0	0	0.00	0.00	0.00
DUCHESNE	38	2,535	2,452	0.97	23.02	25.99
UINTAH	36	2,411	3,097	1.28	21.89	32.82
REGIONAL TOTALS	74	4,946	5,549	1.12	44.91	58.81
SOUTHEASTERN REGION						
CARBON	0	0	0	0.00	0.00	0.00
EMERY	8	249	166	0.67	2.26	1.76
GRAND	1	41	0	0.00	0.38	0.00
SAN JUAN	0	0	0	0.00	0.00	0.00
REGIONAL TOTALS	9	290	166	0.57	2.64	1.76
UNKNOWN	1	124	0	0.00	1.13	0.00
STATE TOTALS	181	11,016	9,436	0.86	100.00	100.00

Total hunter-trips from questionnaire returns.

Table 6. Summary of quail bagged per hunter-day by region and county, 1990-97.

Region and County	Year							
	1990	1991	1992	1993	1994	1995	1996	1997
Northern Region								
Box Elder	0.71	0.38	1.21	0.36	0.75	1.21	1.18	0.00
Cache	0.10*	0.00*	1.00*	0.00*	1.86*	0.25*	1.00*	0.40
Davis	0.15	0.83	0.60	1.25	0.64	0.33	0.78	0.76
Morgan	2.00*	0.00*	0.00*	0.14*	0.00*	0.00*	0.00*	0.00
Rich	0.00*	0.00*	0.00*	0.00*	4.00*	0.00*	0.00*	0.00
Summit	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00
Weber	0.50*	0.54	0.56	0.73	0.22	1.43	0.64	0.40
REGIONAL TOTALS	**0.39**	**0.41**	**0.63**	**0.55**	**0.57**	**0.72**	**0.92**	**0.52**
Central Region								
Juab	0.19	7.25	0.00	1.50	1.67	0.00	1.00	0.25
Salt Lake	0.42	2.17	1.89	0.00	1.40	0.00	3.00	1.33
Sanpete	0.00*	0.00*	0.00*	1.00*	1.00*	0.00*	1.67*	1.50
Tooele	0.60*	0.29*	0.00*	0.00*	1.43*	0.00	0.00	0.00
Utah	0.75	0.61	0.54	0.48	0.63	1.18	0.74	0.63
Wasatch	0.00*	0.00*	0.00*	0.00*	2.00*	1.63*	0.33*	0.00
REGIONAL TOTALS	**0.55**	**0.88**	**0.61**	**0.47**	**0.85**	**1.15**	**0.75**	**0.53**
Southern Region								
Beaver	0.00	0.00	0.00	0.00	0.40*	0.00*	0.00*	0.00
Garfield	0.00	0.00	0.00	0.00	0.00*	0.00*	0.00*	0.00
Iron	0.00	0.00	0.00	1.63	1.00*	0.67*	0.97*	0.00
Kane	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Millard	1.06	0.08	1.50	0.58	0.73	0.75	0.73	0.95
Piute	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sevier	0.00	1.80	0.47	0.43	0.50	0.15	1.29	0.33
Washington	0.60	0.84	1.04	1.57	0.93	1.08	1.15	0.54
Wayne	0.00	0.00	0.00	0.00	5.00*	0.00*	3.00*	1.00
REGIONAL TOTALS	**0.66**	**0.71**	**1.01**	**1.25**	**0.90**	**1.00**	**1.07**	**0.81**
Northeastern Region								
Daggett	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Duchesne	0.91	1.16	1.01	1.04	1.10	1.27	1.22	0.97
Uintah	0.98	0.47	0.90	0.63	0.76	0.75	1.41	1.28
REGIONAL TOTALS	**0.95**	**0.65**	**0.95**	**0.82**	**0.88**	**1.00**	**1.33**	**1.12**
Southeastern Region								
Carbon	1.11	4.50	1.12	1.33	0.00	3.67	0.00	0.00
Emery	1.86	2.11	0.97	0.92	0.57	1.19	0.29	0.67
Grand	2.00	0.00	0.00	0.00	0.00	2.80	0.85	0.00
San Juan	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00
REGIONAL TOTALS	**1.68**	**2.85**	**1.02**	**0.91**	**0.49**	**1.57**	**0.38**	**0.57**
Unknown counties	0.00	0.00	1.50	0.00	6.00	0.00	0.00	0.00
STATE TOTALS	0.71	0.78	0.84	0.94	0.80	1.02	1.03	0.86

Closed Season

Table 7. Percentage distribution of quail harvest by region and county, 1990-97.

Region and County	Year							
	1990	1991	1992	1993	1994	1995	1996	1997
Northern Region								
Box Elder	4.05	1.51	4.45	0.68	1.35	2.54	5.68	0.00
Cache	0.34*	0.00*	1.31*	0.00*	2.92*	0.45*	1.56*	0.44
Davis	1.35	1.51	2.36	1.70	1.57	2.24	0.99	4.19
Morgan	0.68*	0.00*	0.00*	0.17*	0.00*	0.00*	0.00*	0.00
Rich	0.00*	0.00*	0.00*	0.00*	0.90*	0.00*	0.00*	0.00
Summit	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00
Weber	5.41	2.11	3.67	3.74	1.80	4.93	2.56	1.76
REGIONAL TOTALS	**11.83**	**5.12**	**11.78**	**6.28**	**8.54**	**10.15**	**10.80**	**6.39**
Central Region								
Juab	1.69	8.74	0.00	0.51	1.12	0.00	0.14	0.22
Salt Lake	2.70	3.92	4.45	0.00	3.15	0.00	1.28	0.88
Sanpete	0.00*	0.00*	0.00*	0.17*	0.22*	0.00*	1.71*	0.66
Tooele	1.01*	0.60*	0.00*	0.00*	2.25	0.00	0.00	0.00
Utah	16.89	17.17	12.31	8.49	10.56	11.79	9.23	8.81
Wasatch	0.00*	0.00	0.00*	0.00*	1.80*	3.88*	0.85*	0.00
REGIONAL TOTALS	**22.30**	**30.43**	**16.76**	**9.17**	**19.10**	**15.67**	**12.22**	**10.57**
Southern Region								
Beaver	0.00	0.00	0.00	0.00	0.90*	0.00*	0.00*	0.00
Garfield	0.00	0.00	0.00	0.00	0.00*	0.00*	0.00*	0.00
Iron	0.00	0.00	0.00	2.21	2.70*	1.19*	4.26*	0.00
Kane	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Millard	5.74	0.90	6.28	4.41	4.94	0.45	2.27	4.63
Piute	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sevier	0.00	2.71	1.83	2.55	0.22	0.30	3.13	0.88
Washington	17.57	34.64	13.88	48.05	39.33	28.81	9.94	16.74
Wayne	0.00	0.00	0.00	0.00	1.12*	0.00*	0.43*	0.22
REGIONAL TOTALS	**23.31**	**38.26**	**21.99**	**57.22**	**49.22**	**30.75**	**20.03**	**22.47**
Northeastern Region								
Daggett	0.00	0.30	0.00	0.00	0.00	0.00	0.85	0.00
Duchesne	7.10	6.63	18.33	9.00	7.64	19.85	26.56	25.99
Uintah	13.85	8.13	18.85	6.11	9.44	12.84	24.43	32.82
REGIONAL TOTALS	**20.95**	**15.06**	**37.18**	**15.11**	**17.08**	**32.69**	**51.85**	**58.81**
Southeastern Region								
Carbon	3.38	5.42	4.97	0.68	0.00	1.64	0.00	0.00
Emery	17.57	5.72	7.33	7.98	6.07	5.67	2.70	1.76
Grand	0.68	0.00	0.00	0.00	0.00	2.09	1.56	0.00
San Juan	0.00	0.00	0.00	0.00	0.00	0.45	0.00	0.00
REGIONAL TOTALS	**21.62**	**11.15**	**12.31**	**8.66**	**6.07**	**9.85**	**4.26**	**1.76**
Unknown counties	0.00	0.00	0.00	3.57	0.00	0.90	0.85	0.00
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Closed Season

Table 8. Percentage distribution of quail hunting pressure by region and county, 1990-97.

Region and County	Year							
	1990	1991	1992	1993	1994	1995	1996	1997
Northern Region								
Box Elder	4.09	3.06	3.08	1.75	1.45	2.14	4.98	1.13
Cache	2.40*	1.41*	1.10*	1.75*	1.27*	1.83*	1.61*	0.94
Davis	6.25	1.41	3.30	1.27	1.99	6.88	1.32	4.72
Morgan	0.24*	0.00*	2.64*	1.11*	0.72*	0.00*	0.15*	0.00
Rich	0.00*	0.00*	0.00*	0.00*	0.18*	0.00*	0.00*	0.00
Summit	0.72*	0.71*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00
Weber	7.69	3.06	5.51	4.77	6.51	3.52	4.10	3.77
REGIONAL TOTALS	**21.39**	**9.65**	**15.64**	**10.65**	**12.12**	**14.37**	**12.15**	**10.57**
Central Region								
Juab	6.49	0.94	0.22	0.32	0.54	0.31	0.15	0.75
Salt Lake	4.57	1.41	1.98	0.64	1.81	0.00	0.44	0.57
Sanpete	0.24*	0.94*	0.00*	0.16*	0.18*	0.61*	0.44*	0.38
Tooele	1.20	1.65*	1.54*	0.48*	1.27*	0.31	0.15	2.26
Utah	16.11	22.12	19.16	16.54	13.56	10.25	12.88	12.08
Wasatch	0.24*	0.00*	0.22*	0.00*	0.72*	2.45*	2.64*	0.94
REGIONAL TOTALS	**28.85**	**27.06**	**23.13**	**18.13**	**18.08**	**13.92**	**16.69**	**16.98**
Southern Region								
Beaver	0.00	0.00	0.00	0.16	1.81	0.00*	0.00*	0.00
Garfield	0.00	0.00	0.00	0.00	0.00	0.00*	0.00*	0.19
Iron	0.00	0.00	0.22	1.27	2.17	1.83*	4.54*	0.00
Kane	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Millard	3.85	8.47	3.52	7.15	5.43	0.61	3.22	4.15
Piute	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sevier	0.00	1.18	3.30	5.56	0.36	1.99	2.49	2.26
Washington	20.91	34.24	11.23	28.62	34.18	27.22	8.93	16.98
Wayne	0.00	0.00	0.00	0.16	0.18	0.00*	0.15*	0.19
REGIONAL TOTALS	**25.00**	**41.89**	**18.28**	**42.93**	**44.12**	**31.65**	**19.33**	**23.77**
Northeastern Region								
Daggett	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00
Duchesne	5.53	4.47	15.20	8.11	5.61	16.06	22.40	23.02
Uintah	10.10	13.41	17.62	9.06	9.95	17.43	17.86	21.89
REGIONAL TOTALS	**15.63**	**18.12**	**32.82**	**17.17**	**15.55**	**33.49**	**40.27**	**44.91**
Southeastern Region								
Carbon	2.16	0.94	3.74	0.48	0.54	0.46	0.00	0.00
Emery	6.73	2.12	6.39	8.11	8.50	4.89	9.66	2.26
Grand	0.24	0.00	0.00	0.32	0.90	0.76	1.90	0.38
San Juan	0.00	0.00	0.00	0.00	0.00	0.31	0.00	0.00
REGIONAL TOTALS	**9.13**	**3.06**	**10.13**	**8.90**	**9.95**	**6.42**	**11.57**	**2.64**
Unknown counties	0.00	0.24	0.00	2.23	0.18	0.15	0.00	1.13
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Closed Season

Table 9. Statewide summary of quail harvest statistics, 1951-97.

Year	Total Hunters	Total Harvest	Hunter-Days Afield	Quail Per Hunter-Day	Quail Per Hunter
1951	3,856	6,362	7,069	0.90	1.65
1952	2,694	6,105	5,500	1.11	2.27
1953	2,676	5,753	4,494	1.28	2.15
1954	3,855	7,479	8,696	0.86	1.94
1955	--	--	--	0.17	2.10
1956	--	--	--	--	2.26
1957	--	--	--	--	1.85
1958	--	--	--	--	3.73
1959	8,554	22,854	18,174	1.26	2.67
1960	7,117	21,272	13,971	1.52	2.99
1961	9,980	27,362	25,746	1.06	2.74
1962	6,462	18,710	14,660	1.27	2.89
1963	8,059	28,088	16,383	1.71	3.49
1964	8,951	31,189	20,510	1.52	3.48
1965	6,163	17,532	16,528	1.06	2.45
1966	6,465	22,771	16,720	1.36	3.52
1967	8,455	26,187	23,806	1.10	3.10
1968	9,302	28,469	23,132	1.23	3.06
1969	9,160	26,119	22,529	1.16	2.85
1970	6,141	18,896	16,452	1.15	3.08
1971	8,039	21,082	21,595	0.98	2.62
1972	7,380	16,504	21,779	0.76	2.24
1973	5,654	14,324	17,777	0.81	2.53
1974	6,097	12,005	14,702	0.82	1.97
1975	6,397	16,903	16,805	1.01	2.64
1976	5,215	14,454	13,261	1.09	2.77
1977	4,446	9,496	9,646	0.98	2.14
1978	5,924	15,491	13,649	1.13	2.61
1979	5,632	15,821	13,550	1.17	2.81
1980	4,156	11,690	10,400	1.12	2.81
1981	4,946	13,586	12,843	1.06	2.75
1982	4,368	9,870	10,575	0.93	2.26
1983	4,012	11,248	10,232	1.10	2.81
1984	3,654	8,303	9,805	0.85	2.27
1985	3,065	7,051	7,994	0.88	2.30
1986	2,432	4,574	6,326	0.72	1.88
1987	2,549	7,648	7,918	0.97	3.00
1988	2,671	8,849	8,682	1.02	3.31
1989	3,111	7,384	8,607	0.86	2.37
1990	2,614	6,091	8,561	0.71	2.33
1991	2,644	5,775	7,393	0.78	2.18
1992	2,861	6,788	8,068	0.84	2.37
1993	3,649	11,192	11,952	0.94	3.07
1994	2,936	7,822	9,721	0.80	2.66
1995	4,374	13,023	12,712	1.02	2.98
1996	4,622	16,351	15,862	1.03	3.54
1997	3,637	9,436	11,016	0.86	2.59
Totals (1951-97)	224,975	617,909	575,801	--	--
Averages (1951-96)	5,270	14,487	13,447	1.05	2.66

Table 10. Gambel's quail long period waterhole count trend on the west slope of the Beaver Dam Mountains, Washington County, 1978-97. These counts have been conducted since 1962.

	Year																			Average
Index	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1978-96
Total Young	67	253	72	37	85	114	166	47	163	348	59	35	33	208	415	465	135	33	--	61	152
Total Adults	29	77	52	25	33	14	86	11	48	139	47	18	9	35	128	158	102	17	--	21	57
Total Quail	86	330	124	62	118	128	252	58	211	487	106	53	42	243	543	623	237	50	--	82	209
Young per 100 Adults	353	329	138	148	258	814	193	427	340	250	126	194	367	594	324	294	132	194	--	290	304

Table 11. Quail field bag check summary, 1997.

Region and County	ALL HUNTS					COMPLETE HUNTS					
	Total Parties	Total Hunters	Total Hours	Total Birds	Birds/ 100 Hr	Complete Hunts	Total Hunters	Total Hours	Total Birds	Birds/ Hunter	Birds/ 100 Hr
Northern Region											
Box Elder	--	--	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Central Region	--	--	--	--	--	--	--	--	--	--	--
Juab	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Southern Region	--	--	--	--	--	--	--	--	--	--	--
Beaver	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Northeastern Region	--	--	--	--	--	--	--	--	--	--	--
Daggett	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Southeastern Region											
Carbon	--	--	--	--	--		--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
STATE TOTALS	0	0	0	0	ERR		0	0	0	0	ERR	ERR

The 1997 hunt data indicated slightly increased hunting pressure on Huns when compared to 1996. The number of Huns harvested decreased 32 percent in 1997. Total hunters and days afield remain below the long-term average.

We expected continued improvement in Hungarian partridge populations in Box Elder County due to the large quantity of agricultural land set aside in the Conservation Reserve Program (CRP). We believe that increases in hunter success since 1985 reflect increased partridge populations as a direct result of CRP. Exceptions (declines) in 1988 and 1989 were probably due to drought. In 1993, the dramatic decrease in number of Huns harvested probably resulted because of poor over-winter survival during 1992-93. Renewal of CRP under the 1996 Farm Bill should help to increase and maintain Hun populations in northern Utah.

Brood Counts

Results of the annual random brood counts for 1997 are shown in Table 1 of this section. Long-term trends of young per adult ratios, mean brood size and Huns observed per 100 hours are shown in Tables 2-4. Results of the survey for 1997 compared to 1996 and the 10-year (1987-96) average follow:

	1997	Percent change from 1996	Percent change from Average
Total Huns observed	--	--	--
Young per 100 adults	--	--	--
Mean brood size	--	--	--
Huns observed per 100 hours	--	--	--
Total hours effort	--	--	--

No brood count data was collected in 1997.

Harvest

Hunter Questionnaire

Results of the annual hunter questionnaire for 1997 are shown in Table 5. Long-term trends of Huns bagged per hunter-day, percent of harvest and percent of pressure (hunter-days) by county are found in Tables 6-8 and total statewide harvest statistics in Table 9. The 1997 season compared to 1996 and the previous 38-year average follow:

	1997	Percent change from 1996	Percent change from Average
Hungarian partridge hunters	2,382	+1	-32
Hungarian partridge harvest	5,071	-32	-31
Hunter-days afield	6,443	-13	-24
Huns per hunter-day	0.79	-22	-3
Huns per hunter	2.18	-33	+6

Hungarian partridge hunting success decreased 32 percent from 1996. Harvest was 31 percent below the long-term average.

Long-term Hun harvest statistics are shown in Figures 1 and 2.

Field Bag Checks

Hungarian partridge field bag check data collected in 1997 is shown in Table 10. Hunter success trends determined via this method are shown in Table 11. No data was collected in 1997.

Figure 1. Statewide trends of Hun harvest statistics, 1959-97.

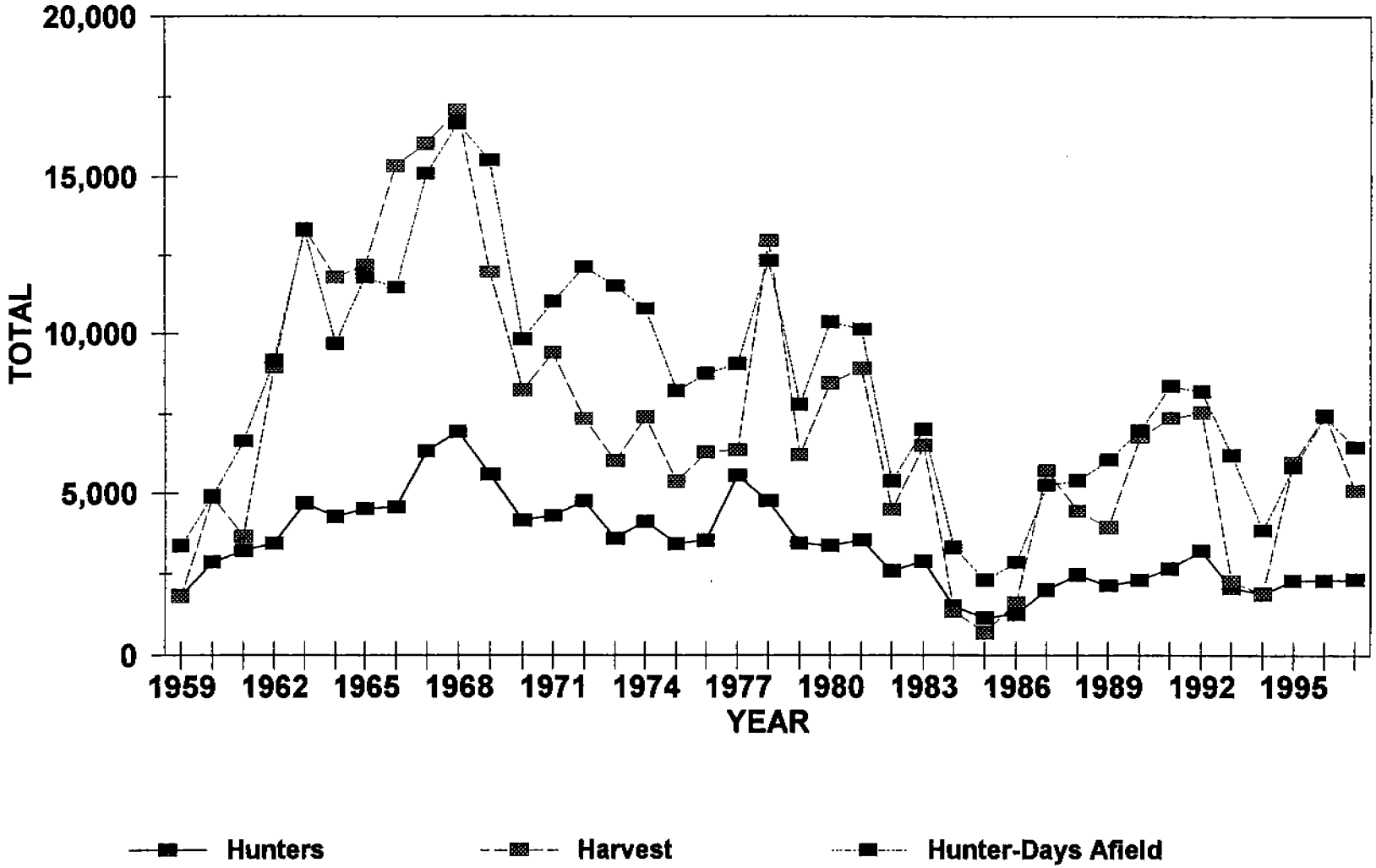


Figure 2. Statewide trends of Hun hunter success rates, 1959-97.

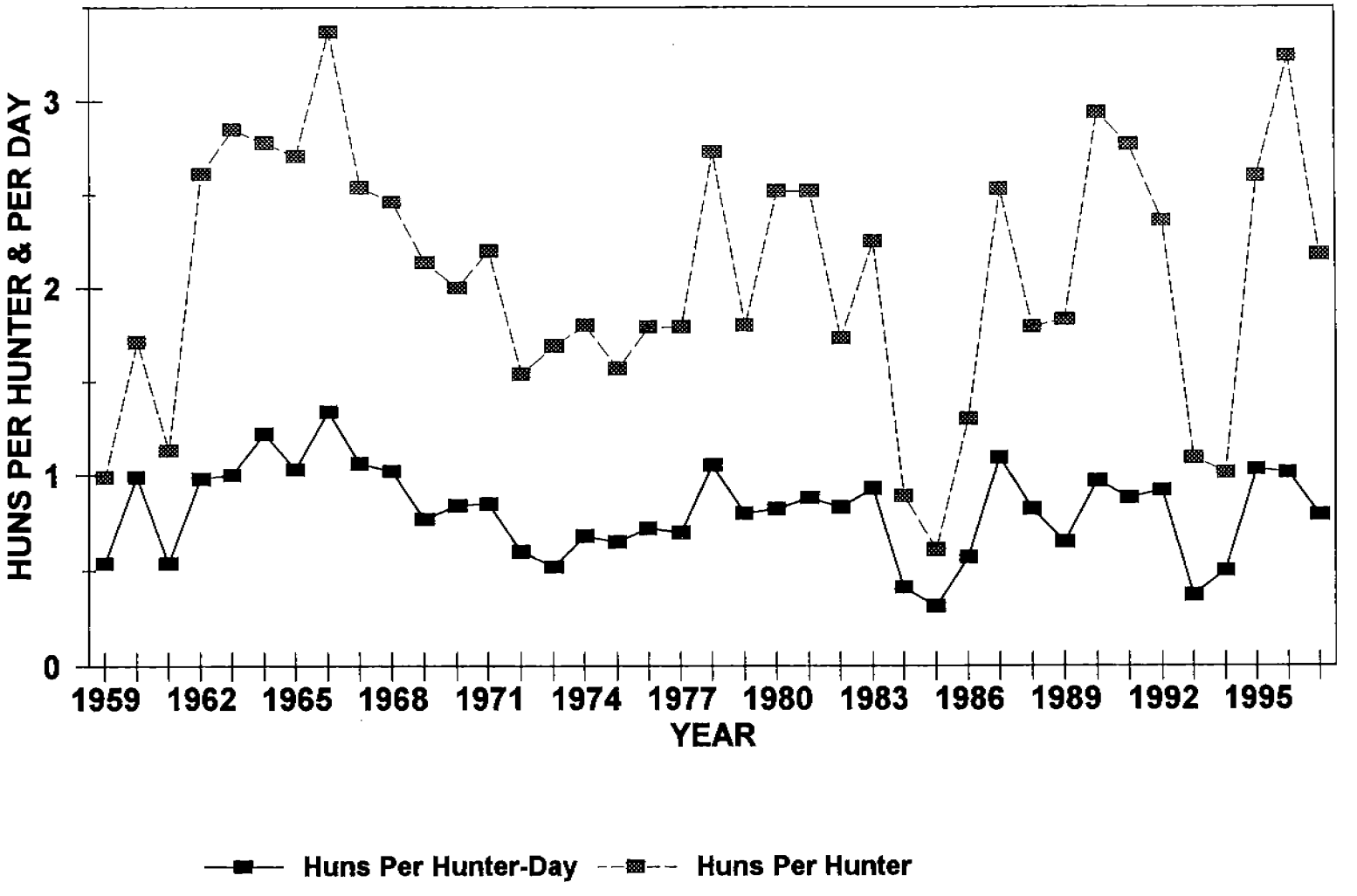


Table 1. Hungarian partridge summer inventory, 1997.

Region and County	Distinct Broods #	Distinct Broods Adults	Distinct Broods Young	Mean Brood	Mixed Young & Adults Adults	Mixed Young & Adults Young	Adults w/ Young	Total Adults	Total Young	Young/ 100 Adult	Vehicle Miles	Hours of Effort Vehicle	Hours of Effort Horse	Hours of Effort Walk	Hours of Effort Total	Birds/ 100 Hr
Northern Region																
Box Elder	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTAL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Central Region																
Juab	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTAL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Southern Region																
Beaver																
Garfield																
Iron																
Kane							NOT APPLICABLE									
Millard																
Piute																
Sevier																
Washington																
Wayne																
REGIONAL TOTALS																
Northeastern Region																
Daggett																
Duchesne							NOT APPLICABLE									
Uintah																
REGIONAL TOTALS																
Southeastern Region																
Carbon																
Emery							NOT APPLICABLE									
Grand																
San Juan																
REGIONAL TOTALS																
STATE TOTALS	**0**	**0**	**0**	**ERR**	**0**	**0**	**0**	**0**	**0**	**ERR**	--	--	**0**	--	**0**	**ERR**

Table 2. Trend of Hungarian partridge young per 100 adults, 1987-97.

Region and County	Year											Average
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1987-96
Northern Region												
Box Elder	569	307	--	396	793	711	--	--	2,000	--	--	
Cache	--	400	--	433	--	260	--	--	--	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	569	324	425	400	793	550	--	--	2,000	--	--	723
Central Region										--	--	
Juab	--	--	--	--	--	800	--	--	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	--	--	--	--	--	--	--	--	--	--	
Tooele	--	--	--	--	--	--	--	--	--	--	--	
Utah	--	--	--	--	--	--	--	--	--	--	--	
Wasatch	--	400	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	--	400	--	--	--	800	--	--	--	--	--	600
Southern Region												
Beaver												
Garfield												
Iron												
Kane						NOT APPLICABLE						
Millard												
Piute												
Sevier												
Washington												
Wayne												
REGIONAL TOTALS												
Northeastern Region												
Daggett							--					
Duchesne							--					
Uintah							750					
REGIONAL TOTALS							750					750
Southeastern Region												
Carbon												
Emery						NOT APPLICABLE						
Grand												
San Juan												
REGIONAL TOTALS												
STATE TOTALS	569	328	425	400	793	567	750	--	2,000	--	--	729

Table 3. Trend of average brood size for Hungarian partridge, 1987-97.

Region and County	Year											Average
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1987-96
Northern Region										--	--	
Box Elder	11.88	8.60	8.50	8.25	12.50	9.00	--	--	20.00	--	--	
Cache	--	--	--	6.00	--	--	--	--	--	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	11.88	8.60	8.50	8.90	12.50	9.00	--	--	20.00	--	--	11.34
Central Region										--	--	
Juab	--	--	--	--	--	8.00	--	--	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	--	--	--	--	--	--	--	--	--	--	
Tooele	--	--	--	--	--	--	--	--	--	--	--	
Utah	--	--	--	--	--	--	--	--	--	--	--	
Wasatch	--	4.00	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	--	4.00	--	--	--	8.00	--	--	--	--	--	6.00
Southern Region												
Beaver												
Garfield												
Iron												
Kane						NOT APPLICABLE						
Millard												
Piute												
Sevier												
Washington												
Wayne												
REGIONAL TOTALS												
Northeastern Region												
Daggett							--					
Duchesne							--					
Uintah							15.00					
REGIONAL TOTALS							15.00					15.00
Southeastern Region												
Carbon												
Emery						NOT APPLICABLE						
Grand												
San Juan												
REGIONAL TOTALS												
STATE TOTALS	11.88	7.83	8.50	8.90	12.50	8.83	15.00	--	20.00	--	--	11.68

Table 4. Trend of Hungarian partridge observed per 100 hours, 1987-97.

Region and County	Year											Average
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1987-96
Northern Region												
Box Elder	561	438	--	529	327	96	--	--	175	--	--	
Cache	--	--	88	538	--	257	--	--	--	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	435	240	88	517	327	110	--	--	175	--	--	270
Central Region												
Juab	--	--	--	--	--	450	--	--	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	--	--	--	--	--	--	--	--	--	--	
Tooele	--	--	--	--	--	--	--	--	--	--	--	
Utah	--	--	--	--	--	--	--	--	--	--	--	
Wasatch	--	500	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	--	500	--	--	--	450	--	--	--	--	--	475
Southern Region												
Beaver												
Garfield												
Iron												
Kane	NOT APPLICABLE											
Millard												
Plute												
Sevier												
Washington												
Wayne												
REGIONAL TOTALS												
Northeastern Region												
Daggett							--					
Duchesne							--					
Uintah							8,500					
REGIONAL TOTALS							8,500					8,500
Southeastern Region												
Carbon												
Emery	NOT APPLICABLE											
Grand												
San Juan												
REGIONAL TOTALS												
STATE TOTALS	435	248	88	517	327	118	40	--	175	--	--	243

Table 5. Summary of Hungarian partridge hunter success and distribution of harvest and hunting pressure by region and county, 1997.

REGION AND COUNTY	SAMPLE SIZE*	HUNTER-DAYS AFIELD	BIRDS BAGGED	BIRDS PER HUNTER-DAY	% OF PRESSURE	% OF HARVEST
NORTHERN REGION						
BOX ELDER	71	3,990	3,429	0.86	61.94	67.63
CACHE	29	1,933	1,226	0.63	30.00	24.18
DAVIS	1	20	0	0.00	0.32	0.00
MORGAN	5	228	124	0.55	3.55	2.46
RICH	1	20	0	0.00	0.32	0.00
SUMMIT	0	0	0	0.00	0.00	0.00
WEBER	1	20	0	0.00	0.32	0.00
REGIONAL TOTALS	108	6,214	4,780	0.77	96.46	94.27
CENTRAL REGION						
JUAB	1	20	0	0.00	0.32	0.00
SALT LAKE	0	0	0	0.00	0.00	0.00
SANPETE	0	0	0	0.00	0.00	0.00
TOOELE	4	103	103	1.00	1.61	2.05
UTAH	2	20	83	4.00	0.32	1.64
WASATCH	0	0	0	0.00	0.00	0.00
REGIONAL TOTALS	7	145	187	1.29	2.26	3.69
SOUTHERN REGION						
BEAVER	0	0	0	0.00	0.00	0.00
GARFIELD	0	0	0	0.00	0.00	0.00
IRON	1	20	20	1.00	0.32	0.41
KANE	0	0	0	0.00	0.00	0.00
MILLARD	0	0	0	0.00	0.00	0.00
PIUTE	0	0	0	0.00	0.00	0.00
SEVIER	0	0	0	0.00	0.00	0.00
WASHINGTON	0	0	0	0.00	0.00	0.00
WAYNE	0	0	0	0.00	0.00	0.00
REGIONAL TOTALS	1	20	20	1.00	0.32	0.41
NORTHEASTERN REGION						
DAGGETT	0	0	0	0.00	0.00	0.00
DUCHESNE	1	41	41	1.00	0.65	0.82
UINTAH	1	20	41	2.00	0.32	0.82
REGIONAL TOTALS	2	62	83	1.33	0.97	1.64
SOUTHEASTERN REGION						
CARBON	0	0	0	0.00	0.00	0.00
EMERY	0	0	0	0.00	0.00	0.00
GRAND	0	0	0	0.00	0.00	0.00
SAN JUAN	0	0	0	0.00	0.00	0.00
REGIONAL TOTALS	0	0	0	0.00	0.00	0.00
UNKNOWN	0	0	0	0.00	0.00	0.00
STATE TOTALS	118	6,443	5,071	0.79	100.00	100.00

**** Total hunter-trips from questionnaire returns.***

Table 6. Summary of Hungarian partridge bagged per hunter-day by region and county, 1990-97.

Region and County	Year							
	1990	1901	1992	1993	1994	1995	1996	1997
Northern Region								
Box Elder	1.11	1.02	1.00	0.24	0.47	1.26	0.99	0.86
Cache	0.86	0.86	1.07	0.56	0.80	0.95	1.15	0.63
Davis	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Morgan	0.00	0.00	0.04	0.57	0.00	0.00	2.00	0.55
Rich	2.13	1.35	0.76	0.53	0.80	0.00	0.00	0.00
Summit	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Weber	1.00	0.40	0.00	0.00	0.00	0.45	0.25	0.00
REGIONAL TOTALS	**1.02**	**0.97**	**0.95**	**0.35**	**0.52**	**1.11**	**1.05**	**0.77**
Central Region								
Juab	0.00*	0.00*	2.00	0.00	0.00	0.00	0.00	0.00
Salt Lake	0.00*	0.00*	1.00*	0.00*	0.00*	0.00*	0.00*	0.00
Sanpete	0.00*	0.00*	0.00*	1.00*	0.00*	1.25*	1.00*	0.00
Tooele	0.46	0.02	0.25	0.50	1.50	0.00	0.00	1.00
Utah	0.00*	0.00*	0.67*	0.13*	0.00*	0.00*	0.25*	4.00
Wasatch	0.00*	0.00*	0.00*	0.00*	0.00*	0.50*	0.00*	0.00
REGIONAL TOTALS	**0.40**	**0.02**	**0.40**	**0.23**	**0.50**	**0.40**	**0.43**	**1.29**
Southern Region								
Beaver	0.00*	0.00*	2.00*	0.00*	0.00*	0.00*	0.78*	0.00
Garfield	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00
Iron	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	1.00
Kane	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00
Millard	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00
Piute	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00
Sevier	3.00*	0.00*	1.67*	0.00*	0.00*	0.00*	0.00*	0.00
Washington	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00
Wasatch	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00
REGIONAL TOTALS	**0.60**	**0.00**	**1.40**	**0.50**	**0.00**	**0.00**	**0.78**	**1.00**
Northeastern Region								
Daggett	0.00*	1.25*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00
Duchesne	0.00*	1.00*	0.00*	0.00*	0.00*	0.17*	0.00*	1.00
Uintah	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	2.00
REGIONAL TOTALS	**0.00**	**1.20**	**0.00**	**0.00**	**0.00**	**0.13**	**0.00**	**1.33**
Southeastern Region								
Carbon	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00
Emery	0.00*	0.00*	0.00*	0.00*	0.00*	0.17*	0.00*	0.00
Grand	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00
San Juan	0.00*	0.00*	0.00*	0.00*	0.00*	6.00*	0.00*	0.00
REGIONAL TOTALS	**0.00**	**0.00**	**0.00**	**2.00**	**0.00**	**1.00**	**0.00**	**0.00**
Unknown counties	0.00	0.00	10.00	0.00	0.00	0.00	0.83	0.00
STATE TOTALS	0.97	0.88	0.92	0.37	0.50	1.03	1.01	0.79

Closed Season

Table 7. Percentage distribution of Hungarian partridge harvest by region and county, 1990-97.

Region and County	Year							
	1990	1991	1992	1993	1994	1995	1996	1997
Northern Region								
Box Elder	60.80	73.82	61.41	33.34	55.97	62.87	52.96	67.63
Cache	31.01	16.75	30.59	37.51	33.95	29.97	39.88	24.18
Davis	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Morgan	0.00	0.00	0.24	3.33	0.00	0.00	0.61	2.46
Rich	5.17	6.37	3.76	7.50	7.34	0.00	0.00	0.00
Summit	0.00	0.00	0.00	0.00	0.00	0.98	0.00	0.00
Weber	0.30	1.42	0.00	0.00	0.00	1.63	0.31	0.00
REGIONAL TOTALS	**97.28**	**98.35**	**96.00**	**81.68**	**97.25**	**95.45**	**93.78**	**94.27**
Central Region								
Juab	0.00*	0.00*	0.47	0.00	0.00	0.00	0.00	0.00
Salt Lake	0.00*	0.00*	0.24*	0.00	0.00*	0.00*	0.00*	0.00
Sanpete	0.00*	0.00*	0.00*	1.67	0.00*	1.63*	0.62*	0.00
Tooele	1.82	0.24	1.18	2.50	2.75	0.00	0.00	2.05
Utah	0.00*	0.00*	0.47*	3.33	0.00*	0.00*	0.31*	1.64
Wasatch	0.00*	0.00*	0.00*	0.00	0.00*	0.33*	0.00*	0.00
REGIONAL TOTALS	**4.76**	**1.82**	**0.24**	**2.35**	**7.50**	**2.75**	**0.93**	**3.69**
Southern Region								
Beaver	0.00*	0.00*	0.47*	0.00	0.00*	0.00*	2.18*	0.00
Garfield	0.00*	0.00*	0.00*	0.83	0.00*	0.00*	0.00*	0.00
Iron	0.00*	0.00*	0.00*	0.00	0.00*	0.00*	0.00*	0.41
Kane	0.00*	0.00*	0.00*	0.00	0.00*	0.00*	0.00*	0.00
Millard	0.00*	0.00*	0.00*	0.00	0.00*	0.00*	0.00*	0.00
Piute	0.00*	0.00*	0.00*	0.00	0.00*	0.00*	0.00*	0.00
Sevier	0.91*	0.00*	1.18*	0.00	0.00*	0.00*	0.00*	0.00
Washington	0.00*	0.00*	0.00*	0.00	0.00*	0.00*	0.00*	0.00
Wayne	0.00*	0.00*	0.00	0.00	0.00*	0.00*	0.00*	0.00
REGIONAL TOTALS	**0.91**	**0.00***	**1.65***	**0.83**	**0.00**	**0.00**	**2.18**	**0.41**
Northeastern Region								
Daggett	0.00*	1.18*	0.00*	0.00	0.00*	0.00*	0.00*	0.00
Duchesne	0.00*	0.24*	0.00*	0.00	0.00*	0.33*	0.00*	0.82
Uintah	0.00*	0.00*	0.00*	0.00	0.00*	0.00*	0.00*	0.82
REGIONAL TOTALS	**0.00**	**0.00***	**0.00***	**0.00**	**0.00**	**0.33**	**0.00**	**1.64**
Southeastern Region								
Carbon	0.00*	0.00*	0.00*	0.00	0.00*	0.00*	0.00*	0.00
Emery	0.00*	0.00*	0.00*	1.67	0.00*	0.33*	0.00*	0.00
Grand	0.00*	0.00*	0.00*	0.00	0.00*	0.00*	0.00*	0.00
San Juan	0.00*	0.00*	0.00*	0.00	0.00*	1.95*	0.00*	0.00
REGIONAL TOTALS	**1.59**	**0.00**	**0.00***	**0.00**	**1.67**	**0.00**	**0.00**	**0.00**
Unknown counties	0.00	0.00	0.00	8.33	0.00	0.00	3.12	0.00
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Closed Season

Table 8. Percentage distribution of Hungarian partridge hunting pressure by region and county, 1990-97.

Region and County	Year							
	1990	1991	1992	1993	1994	1995	1996	1997
Northern Region								
Box Elder	53.10	64.04	56.41	51.23	60.09	51.17	53.61	61.94
Cache	34.81	17.26	26.25	24.85	21.10	32.44	64.80	30.00
Davis	0.00	0.42	0.87	0.00	1.83	0.00	0.00	0.32
Morgan	2.36	0.42	5.21	2.15	1.83	0.00	0.31	3.55
Rich	2.36	4.16	4.56	5.22	4.59	0.00	0.00	0.32
Summit	0.00	0.00	0.00	0.92	0.92	1.00	0.00	0.00
Weber	0.30	3.12	0.00	2.15	2.29	3.68	1.25	0.32
REGIONAL TOTALS	**92.93**	**89.40**	**93.29**	**86.52**	**92.67**	**88.30**	**89.97**	**96.46**
Central Region								
Juab	0.59*	0.00*	0.22	0.31	0.46	0.33	0.00	0.32
Salt Lake	0.00*	0.00*	0.22*	0.31*	0.00*	0.00*	0.00*	0.00
Sanpete	0.00*	0.00*	0.00*	0.61*	0.92*	1.34*	0.63*	0.00
Tooele	3.84	9.15*	4.34	1.84	0.92	0.67	0.00	1.61
Utah	0.00*	0.21*	0.65*	9.20*	0.46*	2.01*	1.25*	0.32
Wasatch	0.00*	0.00*	0.00*	0.00*	0.00*	0.67*	0.31*	0.00
REGIONAL TOTALS	**4.43**	**9.36**	**5.42**	**12.27**	**2.75**	**5.02**	**2.19**	**2.26**
Southern Region								
Beaver	1.18*	0.21*	0.22*	0.00*	0.46*	0.33*	2.82*	0.00
Garfield	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00
Iron	0.00*	0.00*	0.22*	0.00*	0.00*	0.00*	0.00*	0.32
Kane	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00
Millard	0.00*	0.00*	0.00*	0.61*	0.00*	0.00*	0.31*	0.00
Piute	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00
Sevier	0.30*	0.00*	0.65*	0.00*	0.46*	0.00*	0.00*	0.00
Washington	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00
Wayne	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00
REGIONAL TOTALS	**1.48**	**0.21**	**1.08**	**0.61**	**0.92**	**0.33**	**3.13**	**0.32**
Northeastern Region								
Daggett	0.00*	0.83*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00
Duchesne	0.00*	0.21*	0.00*	0.00*	1.38*	2.01*	0.94*	0.65
Uintah	0.00*	0.00*	0.22*	0.00*	1.46*	0.67*	0.00*	0.32
REGIONAL TOTALS	**0.00***	**1.04**	**0.22**	**0.00**	**1.83***	**2.68***	**0.94**	**0.97**
Southeastern Region								
Carbon	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00
Emery	1.18*	0.00*	0.00*	0.00*	1.83*	2.01*	0.00*	0.00
Grand	0.00*	0.00*	0.00*	0.31*	0.00*	0.00*	0.00*	0.00
San Juan	0.00	0.00*	0.00*	0.00*	0.00*	0.33*	0.00*	0.00
REGIONAL TOTALS	**1.18**	**0.00**	**0.00**	**0.31**	**1.83**	**2.34**	**0.00**	**0.00**
Unknown counties	0.00	0.00	0.00	0.31	0.00	1.34	3.76	0.00
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Closed Season

Table 9. Statewide summary of Hungarian partridge harvest statistics, 1955-97.

Year	Total Hunters	Total Harvest	Hunter-Days Afield	Huns Per Hunter-Day	Huns Per Hunter
1955	--	--	--	--	0.39
1956	--	--	--	--	0.89
1957	--	--	--	--	0.45
1958	--	--	--	--	1.34
1959	1,846	1,820	3,354	0.54	0.99
1960	2,847	4,877	4,929	0.99	1.71
1961	3,205	3,648	6,645	0.54	1.13
1962	3,440	8,970	9,153	0.98	2.61
1963	4,676	13,343	13,291	1.00	2.85
1964	4,249	11,812	9,688	1.22	2.78
1965	4,498	12,183	11,798	1.03	2.71
1966	4,549	15,348	11,473	1.34	3.37
1967	6,321	16,049	15,105	1.06	2.54
1968	6,935	17,089	16,674	1.02	2.46
1969	5,591	11,966	15,515	0.77	2.14
1970	4,128	8,236	9,818	0.84	2.00
1971	4,276	9,407	11,011	0.85	2.20
1972	4,754	7,335	12,135	0.60	1.54
1973	3,566	6,014	11,516	0.52	1.69
1974	4,103	7,389	10,789	0.68	1.80
1975	3,409	5,358	8,216	0.65	1.57
1976	3,517	6,287	8,753	0.72	1.79
1977	5,557	6,360	9,058	0.70	1.79
1978	4,743	12,969	12,328	1.05	2.73
1979	3,435	6,200	7,787	0.80	1.80
1980	3,359	8,466	10,366	0.82	2.52
1981	3,545	8,916	10,147	0.88	2.52
1982	2,590	4,475	5,379	0.83	1.73
1983	2,889	6,506	6,998	0.93	2.25
1984	1,523	1,360	3,309	0.41	0.89
1985	1,157	707	2,314	0.31	0.61
1986	1,257	1,627	2,843	0.57	1.30
1987	2,010	5,711	5,246	1.09	2.53
1988	2,471	4,424	5,392	0.82	1.79
1989	2,136	3,920	6,035	0.65	1.83
1990	2,305	6,770	6,976	0.97	2.94
1991	2,662	7,376	8,367	0.88	2.77
1992	3,198	7,553	8,192	0.92	2.36
1993	2,090	2,280	6,194	0.37	1.09
1994	1,899	1,916	3,832	0.50	1.01
1995	2,294	5,967	5,812	1.03	2.60
1996	2,299	7,455	7,409	1.01	3.24
1997	2,328	5,071	6,443	0.79	2.18
Totals (1959-97)	131,657	283,160	330,290	--	--
Averages (1959-96)	3,403	7,318	8,522	0.81	2.06

Table 10. Hungarian partridge field bag check summary, 1997.

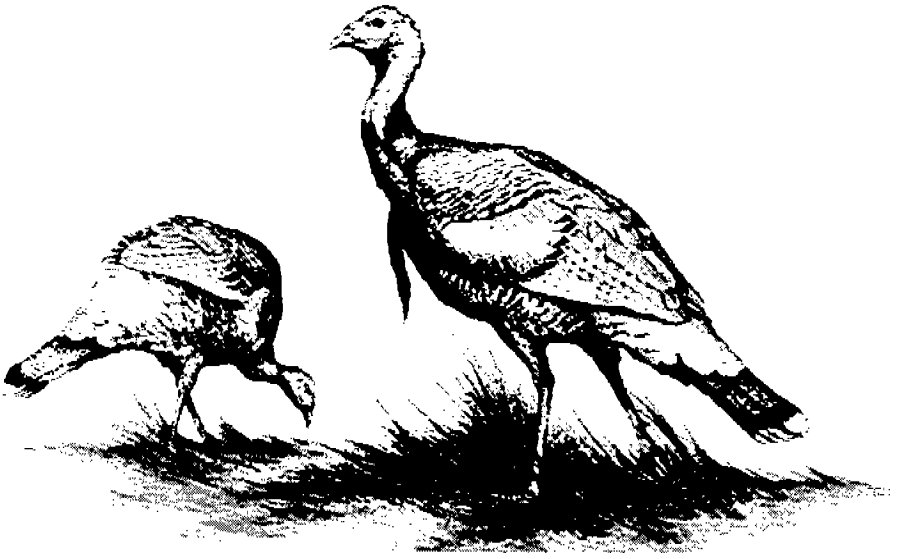
Region and County	All Hunts						Complete Hunts					
	Total Parties	Total Hunters	Total Hours	Total Birds	Birds/ 100 Hr		Complete Hunts	Total Hunters	Total Hours	Total Birds	Birds/ Hunter	Birds/ 100 Hr
Northern Region												
Box Elder	--	--	--	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
Central Region	--	--	--	--	--	--	--	--	--	--	--	--
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
Southern Region												
Beaver												
Garfield												
Iron						NOT APPLICABLE						
Kane												
Millard												
Piute												
Sevier												
Washington												
Wayne												
REGIONAL TOTALS												
Northeastern Region												
Daggett												
Duchesne						NOT APPLICABLE						
Uintah												
REGIONAL TOTALS												
Southeastern Region												
Carbon												
Emery						NOT APPLICABLE						
Grand												
San Juan												
REGIONAL TOTALS												
STATE TOTALS	--	--	--	--	--	--	--	--	--	--	--	--

Table 11. Hungarian partridge hunter success trend as determined by field bag check, 1992-97.

Region and County	1992		1993		1994		1995		1996		1997	
	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr
Northern Region												
Box Elder	1.50	50	--	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	0.55	86	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	0.69	69	--	--	--	--	--	--	--	--	--	--
Central Region			--	--	--	--	--	--	--	--	--	--
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
Southern Region												
Beaver												
Garfield												
Iron					NOT APPLICABLE							
Kane												
Millard												
Piute												
Sevier												
Washington												
Wayne												
REGIONAL TOTALS												
Northeastern Region												
Daggett												
Duchesne					NOT APPLICABLE							
Uintah												
REGIONAL TOTALS												
Southeastern Region												
Carbon												
Emery					NOT APPLICABLE							
Grand												
San Juan												
REGIONAL TOTALS												
STATE TOTALS	--	--	--	--	--	--	--	--	--	--	--	--

Brood Counts

Limited brood count data for 1997 is shown in Table 7.



In 1994, the entire state went to limited entry turkey hunting for both the Merriam's and Rio Grande sub-species. Drawing odds for each of the 1997 hunts is shown in Table 6.

Merriam's Turkeys

Merriam's turkey populations remain stable. Limited entry hunting was allowed on 4 units, during a total of 6 seasons. Two units were open for early and late seasons. A total of 362 permits were sold. A fall turkey hunting season was not held in Utah in 1997. A total of 81 Merriam's turkeys were harvested in 1997. Merriam's turkey hunters experienced a 24 percent success rate.

Rio Grande Turkeys

Two hundred forty permits were sold in 1997. A total of 127 Rio Grande turkeys were harvested in 1997 for a success rate of 55 percent.

Conservation Permits

Beginning in 1997, Sealed-bid and Auction Turkey Permits were replaced by Conservation Permits. Under the new Conservation Permits Rule (R657-41), wildlife conservation organizations obtain permits, authorized by the Utah Wildlife Board, and use them in fund-raising activities to generate management funds for each species. Qualified wildlife conservation organizations typically keep 10 percent of funds generated for marketing, etc. Organizations, in some cases, can keep more than 10 percent of funds generated from permits if they propose habitat or management projects to benefit the species.

In 1997, the statewide turkey conservation permit was issued to the Utah Chapter National Wild Turkey Federation. The statewide turkey conservation permit allows the holder to hunt over an extended season (from the first date that any Utah turkey unit opens through the last date that any Utah turkey unit closes) on any open turkey unit in the state. In 1997, the statewide turkey conservation permit sold for $1,000.00.

In 1997, seven area turkey conservation permits were issued to the Utah Chapter National Wild Turkey Federation. An area turkey conservation permit allows the holder to hunt over an extended season on one or a combination of open turkey units. In 1997, the seven area turkey conservation permits generated $3,805.00.

Total turkey conservation permits funds generated in 1997 was $4,805.00.

Harvest

Spring Merriam's Gobbler Season

Results of the 1997 spring season are shown in Table 1 of this section. The trend of these data since 1968 is shown in Table 2 and Figures 1 and 2. Statewide summary of fall hunt statistics is in Table 3. The 1997 spring season survey compared to 1996 and the previous 28-year average follow:

	1997	Percent change from 1996	Percent change from Average
Permits sold	362	+2	+32
Hunters afield	339	+6	+37
Turkeys harvested	81	-4	+141
Hunter-days afield	1,208	+5	+57
Percent hunter success	24	-8	+96
Turkeys bagged per hunter-day	0.07	0	+58
Percent of hunters who observed turkeys	87	+12	+108

Beginning in 1994, a limited entry turkey hunting program was implemented in Utah. Total harvest decreased from 84 in 1996 to 81 in 1997. Hunter success rates decreased 24 percent from 1996 but were 141 percent above the long-term average.

Spring Rio Grande Gobbler Season

Results of the 1997 spring season are shown in Table 4 of this section. The trend of these data since 1991 is shown in Table 5 and Figures 3 and 4. The 1997 spring season compared to 1996 and the previous 6-year average follows:

	1997	Percent change from 1996	Percent change from Average
Permits sold	240	+38	+190
Hunters afield	229	+38	+190
Turkeys harvested	127	+19	+141
Hunter-days afield	920	+19	+151
Percent hunter success	55	-14	-18
Turkeys bagged per hunter-day	0.14	0	-11
Percent of hunters who observed turkeys	82	-7	--

Two hundred twenty nine hunters averaged 4.02 days-afield each to harvest a total of 127 turkeys. Fifty-five percent of the hunters afield harvested a bird.

As other Rio Grande populations continue to grow throughout the state, more limited entry opportunities will be provided.

Turkey permit drawing odds for 1997 are found in Table 6.

Figure 1. Spring Merriam's wild turkey harvest statistics, 1968-97.

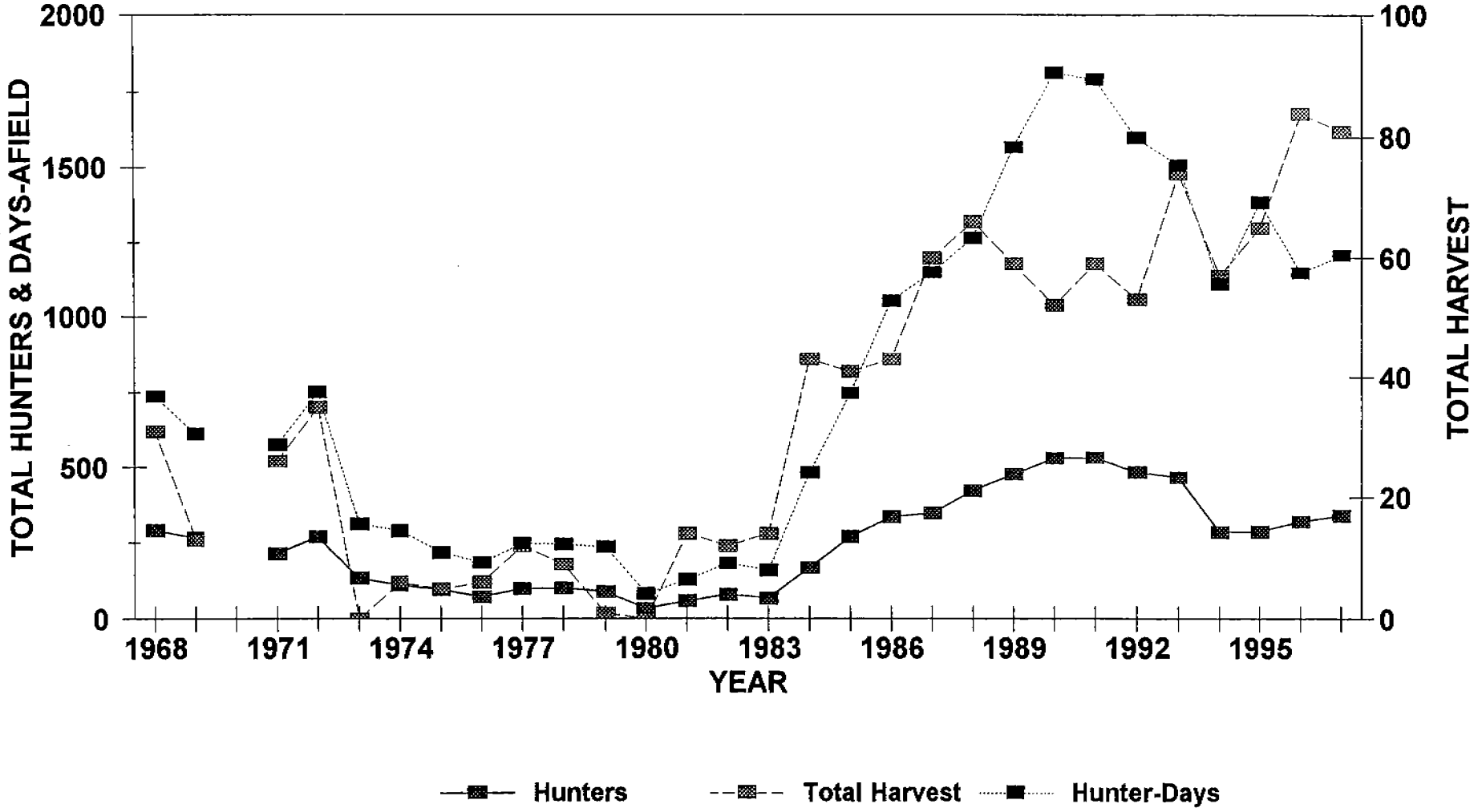


Figure 2. Spring Merriam's wild turkey hunting success, 1968-97.

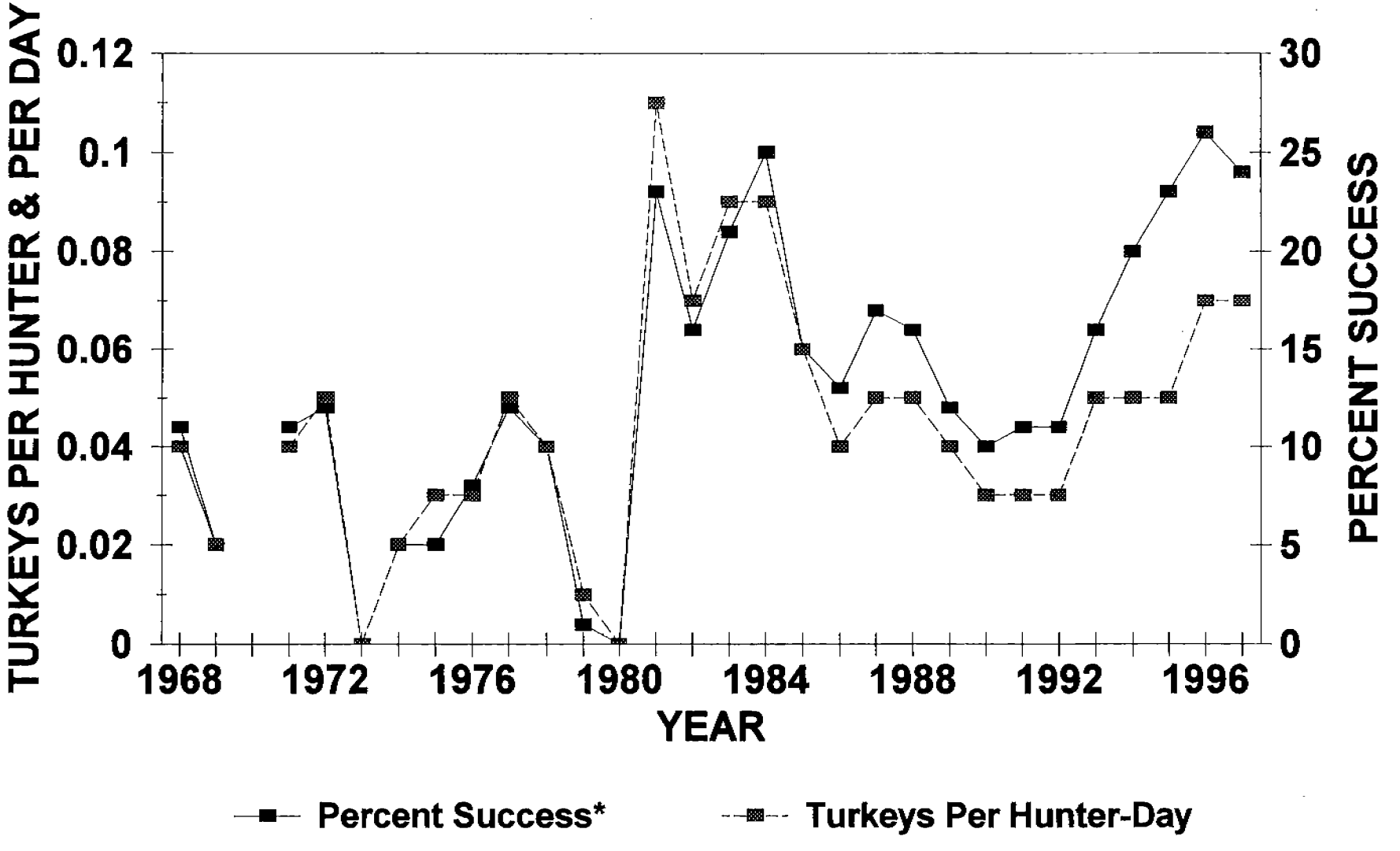


Table 1. Summary of the 1997 spring Merriam's turkey season.

	Boulder (early)	Boulder (late)	Unit Totals	Kolob	LaSal (early)	LaSal (late)	Unit Totals	Zion (early)	Zion (late)	Unit Totals	STATE TOTALS
Hunt Number	201a	201b		202	203a	203b		204a	204b		
Permits Sold	74	75	149	35	15	15	30	74	75	149	363
No Hunts	4	4	8	0	3	0	3	7	5	12	23
Hunters Afield	70	70	140	35	12	15	27	67	70	137	339
Total Hunter-Days	229	290	519	154	38	40	78	205	252	457	1,208
Average Hunter-Days Afield	3.3	4.1	7	4.4	3.2	2.7	6	3.1	3.6	7	6
Turkeys Bagged	22	2	24	14	5	5	10	22	11	33	81
Percent Success	31	3	17	40	42	33	37	33	16	24	24
Turkeys Bagged Per Hunter-Day	0.10	0.01	0.05	0.09	0.13	0.13	0.13	0.11	0.04	0.07	0.07
Reported Crippling Loss	0	0	0	2	0	0	0	4	0	4	6
(Loss/100 Bagged)	0	0	0	14	0	0	0	18	0	12	7
Turkeys Observed											
Gobblers	90	30	120	89	15	22	37	126	127	253	499
Hens	347	106	453	214	48	30	78	242	130	372	1,117
Unidentified	51	25	76	128	0	10	10	93	23	116	330
Number of Hunters Who Saw Turkeys	70	70	140	30	12	10	22	57	45	102	294
Percent of Hunters Who Saw Turkeys	100.00	100.00	100.00	85.00	100.00	72.70	86.35	86.10	64.10	75.10	86.61
Percent of Hunters Who Saw Gobblers	82.00	39.40	60.70	85.00	85.70	54.50	70.10	77.80	46.20	62.00	69.45
Beard Length 0"-<4" (% of Harvest)	33.33	0.00	16.67	12.50	0.00	0.00	0.00	18.18	20.00	19.09	12.06
Beard Length 4"-7" (% of Harvest)	8.33	100.00	54.17	12.50	0.00	25.00	12.50	18.18	0.00	9.09	22.06
Beard Length >7" (% of Harvest)	58.33	0.00	29.17	75.00	100.00	75.00	87.50	63.64	80.00	71.82	65.87
Blunt Spur (% of Harvest)	58.33	0.00	29.17	12.50	0.00	0.00	0.00	41.67	0.00	20.84	15.63
Rounded Spur (% of Harvest)	33.33	100.00	66.67	62.50	33.33	75.00	54.17	33.33	83.33	58.33	60.42
Sharp Spur (% of Harvest)	8.33	0.00	4.17	25.00	66.67	25.00	45.84	25.00	16.67	20.84	23.96

Table 2. Summary of Merrriam's turkey harvest statistics for spring gobbler seasons, 1967-97.

Hunting Unit	Year	Hunters Afield	Total Harvest	Hunter-Days Afield	Percent Success*	Turkeys Per Hunter-Day	Percent of Hunters Observing Turkeys	Total Permits**
STATE TOTALS	1968	290	31	738	11	0.04	41	310
	1969	267	13	612	5	0.02	22	276
	1970				NO SEASON			
	1971	215	26	576	11	0.04	38	223
	1972	269	35	751	12	0.05	39	285
	1973	135	0	311	0	0.00	10	150
	1974	112	6	289	5	0.02	22	121
	1975	97	5	219	5	0.03	29	103
	1976	74	6	185	8	0.03	32	81
	1977	99	12	248	12	0.05	39	108
	1978	101	9	246	10	0.04	42	116
	1979	90	1	237	1	0.01	8	113
	1980	35	0	84	0	0.00	17	40
	1981	60	14	129	23	0.11	53	83
	1982	80	12	184	16	0.07	62	91
	1983	69	14	161	21	0.09	55	92
	1984	169	43	482	25	0.09	72	190
	1985	270	41	747	15	0.06	52	314
	1986	335	43	1,054	13	0.04	57	362
	1987	347	60	1,150	17	0.05	57	384
	1988	421	66	1,267	16	0.05	50	490
	1989	477	59	1,568	12	0.04	55	527
	1990	531	52	1,812	10	0.03	51	579
	1991	532	59	1,792	11	0.03	49	587
	1992	484	53	1,599	11	0.03	45	538
	1993	466	74	1,508	16	0.05	54	500
	1994***	285	57	1,112	20	0.05	–	335
	1995	287	65	1,386	23	0.05	40	335
	1996	320	84	1,151	26	0.07	78	355
	1997	339	81	1,208	24	0.07	87	362
STATE TOTALS (1968-97)		7,256	1,021	22,806				8,050
STATE AVERAGES (1968-96)		247	34	771	12	0.04	42	275

*Based on the number of hunters bagging one or more turkeys.

**Total permits are sold on a statewide basis and not by unit, 1968-93. In 1994, permits were sold by unit.

***Beginning in 1994, a limited entry turkey hunting program was initiated.

Table 3. Statewide summary of fall Merriam's wild turkey harvest statistics, 1964-97.

Year	Permits Sold	Hunters Afield	Hunter-Days Afield	Turkeys Bagged	Percent Success**	Turkeys per Hunter-Day	Crippling Loss/ 100 Bagged	Turkeys Observed	Percent of Hunters Observing Turkeys
1964	229	211	362	81	38	0.22	15	1,158	60
1965	214	207	406	50	24	0.12	8	730	29
1966*	192	187	471	43	23	0.09	7	756	36
1967	146	135	405	40	30	0.10	16	748	48
1968*	368	344	883	183	38	0.21	15	2,321	54
1969	223	210	549	36	11	0.06	19	466	17
1970	197	174	418	58	24	0.14	6	564	31
1971	184	174	444	60	21	0.14	8	451	28
1972	124	118	303	12	7	0.04	10	173	21
1973***	--	--	--	--	--	--	--	--	--
1974	29	26	79	3	12	0.04	33	83	38
1975	58	46	115	7	15	0.06	0	57	26
1976	68	56	136	15	27	0.11	7	182	32
1977	60	53	133	7	15	0.06	0	48	18
1978*	102	88	223	7	9	0.03	33	335	38
1979	46	36	71	3	9	0.05	0	61	19
1980	43	35	69	11	32	0.16	38	127	44
1981	63	55	114	12	22	0.11	56	141	32
1982	56	50	136	11	23	0.08	10	185	47
1983	61	49	112	15	28	0.13	0	303	49
1984	97	86	193	28	32	0.14	14	380	49
1985***	--	--	--	--	--	--	--	--	--
1986***	--	--	--	--	--	--	--	--	--
1987***	--	--	--	--	--	--	--	--	--
1988***	--	--	--	--	--	--	--	--	--
1989***	--	--	--	--	--	--	--	--	--
1990***	--	--	--	--	--	--	--	--	--
1991***	--	--	--	--	--	--	--	--	--
1992***	--	--	--	--	--	--	--	--	--
1993***	--	--	--	--	--	--	--	--	--
1994***	--	--	--	--	--	--	--	--	--
1995***	--	--	--	--	--	--	--	--	--
1996***	--	--	--	--	--	--	--	--	--
1997***	--	--	--	--	--	--	--	--	--
TOTALS (1964-84)	2,560	2,340	5,622	682	--	--	--	9,269	--
AVERAGES (1964-84)	122	111	268	32	21	0.10	14	441	34

*Some hunters hunted more than one area or failed to designate areas hunted. This accounts for the difference between totals given above and combined tables of separate units in Tables 5, 6 and 7.

**During 1968, the Boulder Mountain and East Zion units had two-bird season limits and the LaSal Mountains a one-bird limit; from 1969 through 1972, all areas had a two-bird limit. Hunter success was based on the number of successful hunters rather than total turkeys bagged.

*** No fall season.

Figure 3. Spring Rio Grande turkey harvest statistics, 1991-97.

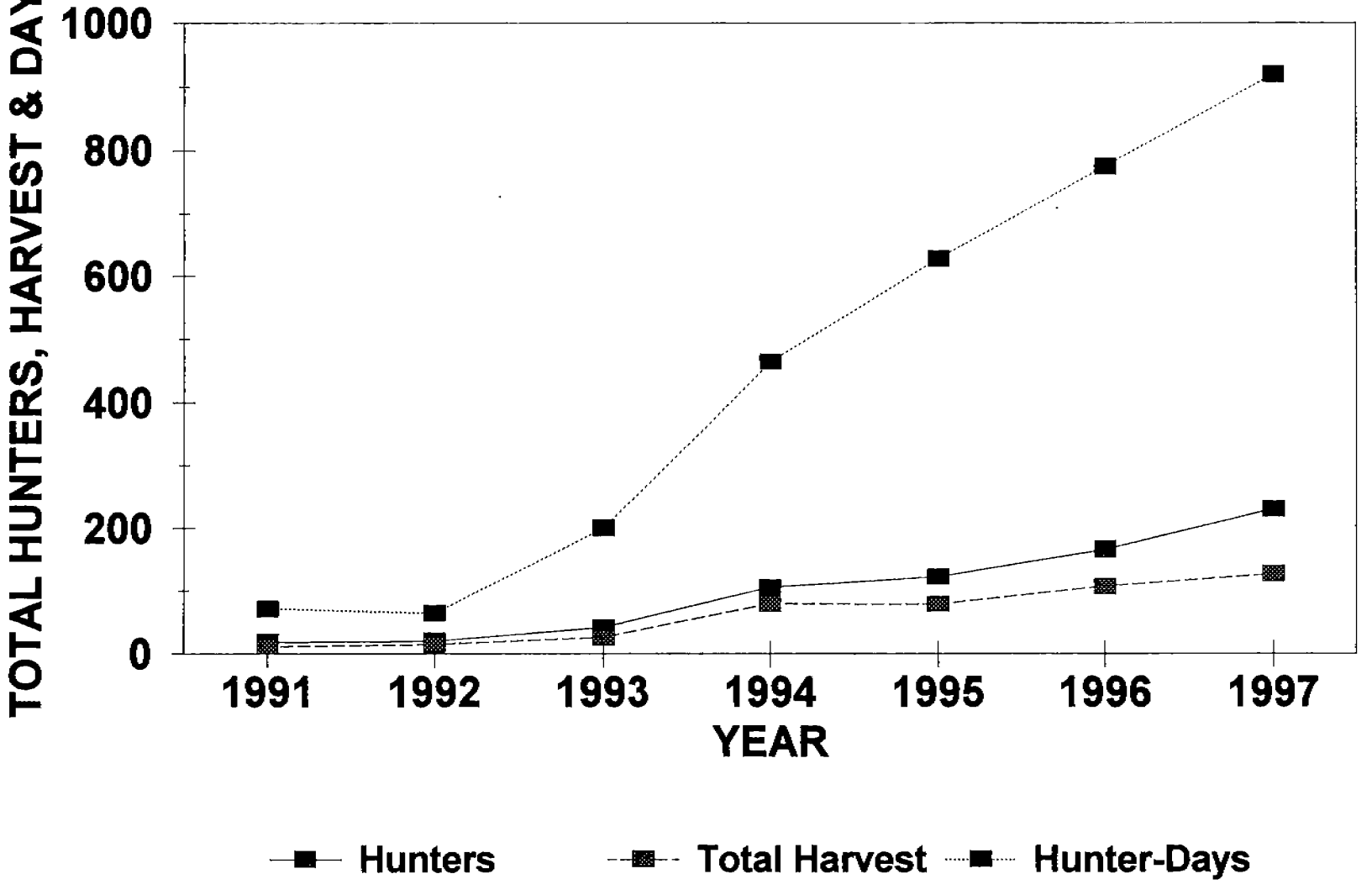


Figure 4. Spring Rio Grande turkey hunting success, 1991-97.

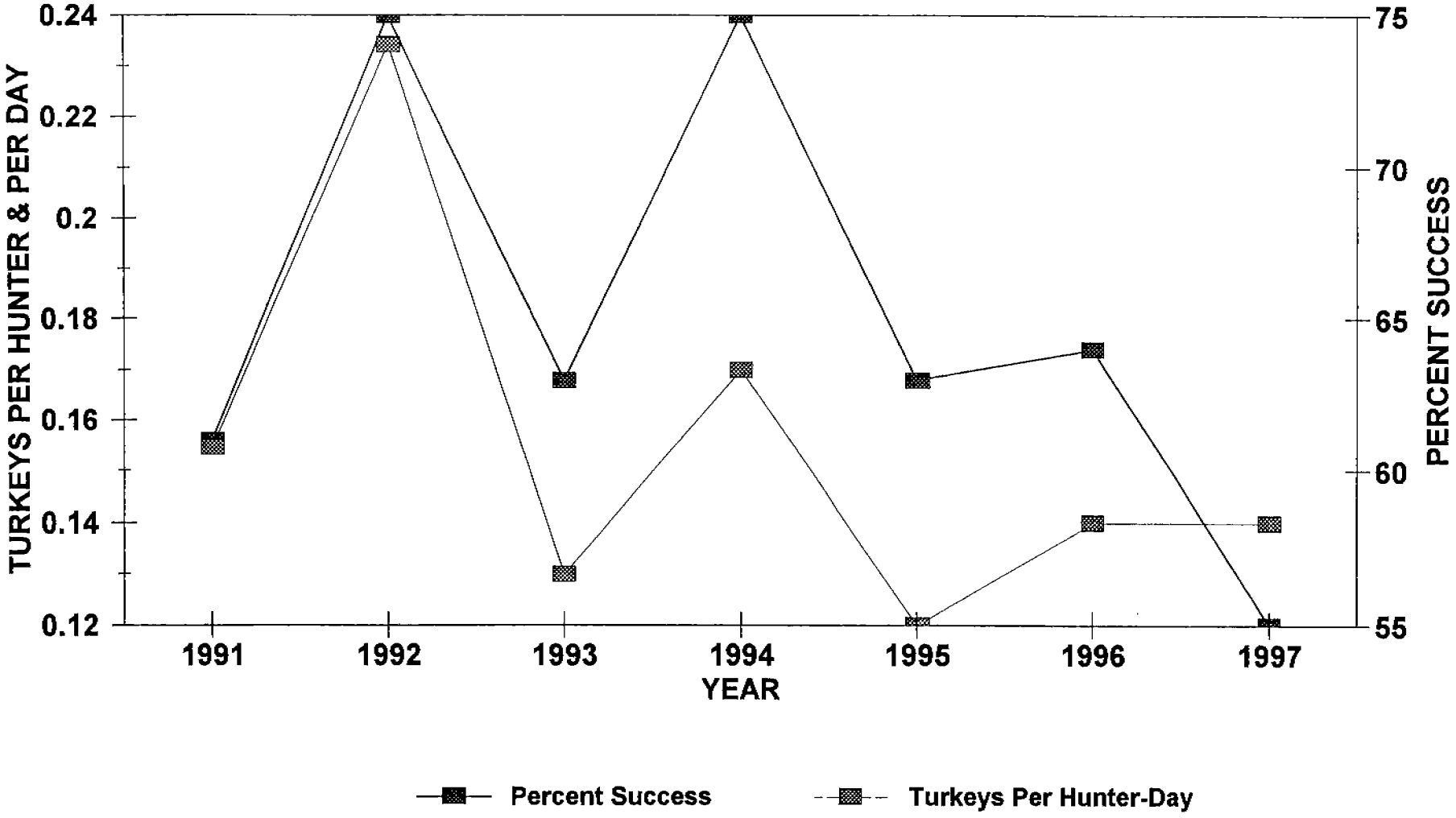


Table 4. Summary of the 1997 spring limited entry Rio Grande turkey season.

Hunt Number	Beaver (early) 101a	Beaver (late) 101b	Unit Totals	Duchesne County (early) 102a	Duchesne County (late) 102b	Unit Totals	West Emery County 103	Fillmore 104	Colorado River (early) 105a	Colorado River (late) 105b	Unit Totals	Green River 106	Milford* 107	Monroe Mountain 108
Permits Sold	24	24	48	8	8	16	5	10	5	5	10	5		5
No Hunts				0	0	0	0		0	0	0	0		
Hunters Afield	23	23	46	8	8	16	5	10	5	5	10	5		5
Hunter-Days	80.5	94.3	174.8	37	30	67	10	21	19	15	34	26		9
Turkeys Bagged	11	7	18	7	3	10	3	10	1	3	4	5		3
Percent Success	48	30	39	88	38	63	60	100	20	60	40	100		60
Turkeys Bagged Per Hunter-Day	0.14	0.07	0.11	0.19	0.10	0.14	0.30	0.48	0.05	0.20	0.13	0.19		0.33
Reported Crippling Loss	0	0	0	0	0	0	0	0	0	0	0	0		0
(Loss/100 Bagged)	0	0	0	0	0	0	0	0	0	0	0	0		0
Turkeys Observed														
Gobblers	89	31	120	24	29	53	3	56	69	40	109	39		4
Hens	189	65	254	80	27	107	10	132	123	63	186	61		11
Unidentified	--	--		9	0		0	--	3	0		45		--
Percent of Hunters Who Saw Turkeys	91.00	85.00	88.00	83.30	100.00	91.65	50.00	100.00	100.00	100.00	100.00	100.00		80.00
Percent of Hunters Who Saw Gobblers	86.00	79.00	82.50	83.30	100.00	91.65	50.00	100.00	100.00	100.00	100.00	100.00		60.00
Beard Length 0"-<4" (% of Harvest)	0.00	33.00	16.50	20.00	50.00	35.00	0.00	12.00	0.00	0.00	0.00	0.00		0.00
Beard Length 4"-7" (% of Harvest)	18.00	0.00	9.00	40.00	0.00	20.00	0.00	12.00	0.00	100.00	50.00	25.00		0.00
Beard Length >7" (% of Harvest)	81.00	67.00	74.00	40.00	50.00	45.00	100.00	75.00	100.00	0.00	50.00	75.00		100.00
Blunt Spur (% of Harvest)	0.00	25.00	12.50	0.00	0.00	0.00	0.00	12.00	0.00	0.00	0.00	0.00		0.00
Rounded Spur (% of Harvest)	36.00	25.00	30.50	20.00	50.00	35.00	0.00	12.00	0.00	100.00	50.00	40.00		0.00
Sharp Spur (% of Harvest)	63.00	50.00	56.50	80.00	50.00	65.00	100.00	75.00	100.00	0.00	50.00	60.00		100.00

*Closed Unit

Table 4. Summary of the 1997 spring limited entry Rio Grande turkey season (continued).

Hunt Number	San Juan (early) 112a	San Juan (late) 112b	Unit Totals	Uintah County (early) 113a	Uintah County (late) 113b	Unit Totals	No. Utah County (early) 114a	No. Utah County (late) 114b	Unit Totals	So. Utah County 115	Wasatch County 116	West Pine Valley 117	STATE TOTALS
Permits Sold	10	10	20	5	5	10	15	15	30	9	5	5	240
No Hunts	1	0	1	0	0	0							3
Hunters Afield	9	10	19	5	5	10	13	15	28	7	5	5	229
Hunter-Days	29	32	61	26	13	39	54.6	90.6	145.2	30.8	20	24	920
Turkeys Bagged	9	8	17	4	3	7	7	7	14	6	3	2	127
Percent Success	100	80	89	80	60	70	54	47	50	86	60	40	55
Turkeys Bagged Per Hunter-Day	0.31	0.25	0.28	0.15	0.23	0.19	0.13	0.08	0.10	0.19	0.15	0.08	0.14
Reported Crippling Loss	1	2	1.5	0	0	0	2	0	2	0	0	0	6
(Loss/100 Bagged)	11	25	9	0	0	0	29	0	14	0	0	0	4
Turkeys Observed													
Gobblers	23	66	89	33	23	56	61	39	50	54	50	5	979
Hens	63	98	161	79	42	121	209	145	177	120	109	20	2,013
Unidentified	54	20		13	33		72	29	51	52	9	--	165
Percent of Hunters Who Saw Turkeys	100.00	80.00	90.00	100.00	66.70	83.35	62.00	93.00	77.50	100.00	100.00	80.00	81.53
Percent of Hunters Who Saw Gobblers	100.00	80.00	90.00	100.00	66.70	83.35	--	--	--	--	--	40.00	61.24
Beard Length 0"-<4" (% of Harvest)	0.00	0.00	0.00	33.33	0.00	16.67	28.57	16.67	22.62	16.67	0.00	0.00	9.79
Beard Length 4"-7" (% of Harvest)	16.67	33.33	25.00	0.00	0.00	0.00	42.86	33.33	38.10	0.00	33.33	0.00	15.08
Beard Length >7" (% of Harvest)	83.33	66.67	75.00	66.67	100.00	83.34	28.57	50.00	39.29	83.33	66.67	100.00	69.12
Blunt Spur (% of Harvest)	16.67	50.00	33.34	100.00	0.00	50.00	28.57	14.28	21.43	16.67	0.00	0.00	11.85
Rounded Spur (% of Harvest)	33.33	50.00	41.67	0.00	0.00	0.00	57.14	28.57	42.86	33.33	33.33	0.00	28.22
Sharp Spur (% of Harvest)	50.00	0.00	25.00	0.00	100.00	50.00	14.29	57.14	35.72	50.00	66.67	100.00	53.96

*Closed Unit

Table 5. Summary of Rio Grande turkey harvest statistics for spring gobbler seasons, 1991-97.

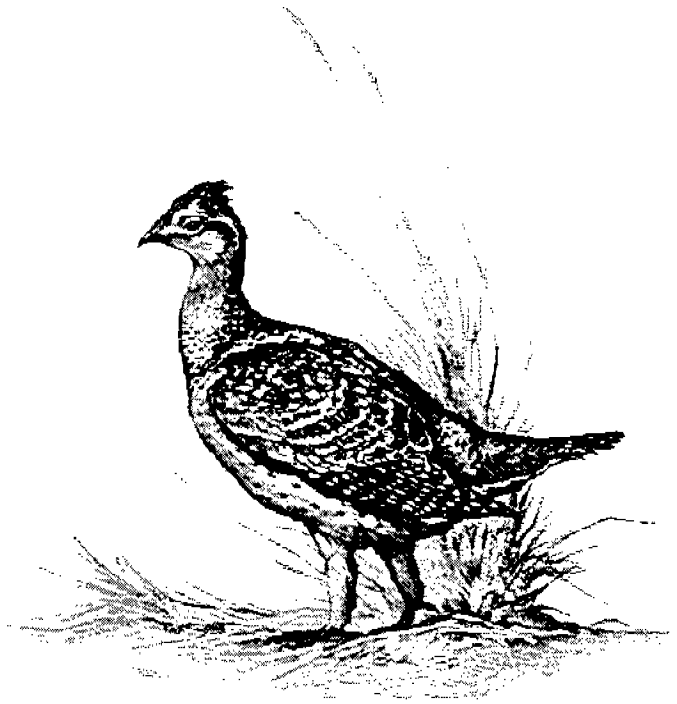
Hunting Unit	Year	Hunters Afield	Total Harvest	Hunter-Days Afield	Percent Success	Turkeys Per Hunter-Day	Percent of Hunters Observing Turkeys	Total Permits
STATE TOTALS	1991	18	11	71	61	0.15	--	20
	1992	20	15	64	75	0.23	--	21
	1993	41	26	200	63	0.13	--	42
	1994	105	79	464	75	0.17	--	105
	1995	123	78	628	63	0.12	--	135
	1996	166	107	776	64	0.14	88	174
	1997	229	127	920	55	0.14	81.53	240
STATE TOTALS (1991-97)		702	443	3,123	--	--	--	737
STATE AVERAGES (1991-96)		79	53	367	67	0.16	--	83

Table 6. Summary of wild turkey limited entry hunting unit drawing odds for 1997.

HUNT NAME	HUNT NUMBER	PERMITS AVAILABLE	RESIDENT APPLICANTS	NONRESIDENT APPLICANTS	TOTAL APPLICANTS	ODDS	
BEAVER (EARLY)	T101A	24	145	0	145	6	
BEAVER (LATE)	T101B	24	130	5	135	6	
DUCHESNE (EARLY)	T102A	8	20	0	20	3	
DUCHESNE (LATE)	T102B	8	27	0	27	3	
WEST EMERY COUNTY	T103	5	55	2	57	11	
FILLMORE	T104	10	187	0	187	19	
COLORADO RIVER (EARLY)	T105A	5	15	0	15	3	
COLORADO RIVER (LATE)	T105B	5	28	0	28	6	
GREEN RIVER	T106	5	4	0	4	1	UNDERSUBSCRIBED
MONROE MOUNTAIN	T108	5	15	0	15	3	
MORGAN-SOUTH RICH	T109	5	18	0	18	4	
OGDEN	T110	9	231	1	232	26	
PINE VALLEY (EARLY)	T111A	24	105	3	108	5	
PINE VALLEY (LATE)	T111B	24	54	3	57	2	
SAN JUAN (EARLY)	T112A	10	39	4	43	4	
SAN JUAN (LATE)	T112B	10	28	0	28	3	
UINTAH COUNTY (EARLY)	T113A	5	30	0	30	6	
UINTAH COUNTY (LATE)	T113B	5	37	0	37	7	
UTAH COUNTY NORTH (EARLY)	T114A	15	190	0	190	13	
UTAH COUNTY NORTH (LATE)	T114B	15	134	0	134	9	
UTAH COUNTY SOUTH	T115	9	88	0	88	10	
WASATCH COUNTY	T116	5	60	1	61	12	
WEST PINE VALLEY	T117	5	11	0	11	2	
BOULDER MOUNTAIN (EARLY)	T201A	74	214	0	214	3	
BOULDER MOUNTAIN (LATE)	T201B	75	165	2	167	2	
KOLOB	T202	35	36	1	37	1	
LASAL (EARLY)	T203A	15	44	0	44	3	
LASAL (LATE)	T203B	15	19	0	19	1	
ZION (EARLY)	T204A	74	62	0	62	1	UNDERSUBSCRIBED
ZION (LATE)	T204B	75	41	10	51	1	UNDERSUBSCRIBED
TOTAL		603	2,232	32	2,264	4	

Table 7. Wild turkey summer inventory summary, 1997.

Region and County	Distinct Broods #	Distinct Broods Adults	Distinct Broods Young	Mean Brood	Mixed Observations Adult	Mixed Observations Young	Adults w/o Young	Total Adults	Total Young	Young/ 100 Ad	Vehicle Miles	Hours of Effort Vehicle	Hours of Effort Horse	Hours of Effort Walk	Hours of Effort Total	Birds/ 100 Hr
Northern Region																
Box Elder	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Central Region																
Juab	2	2	20	10.00	5	12	0	7	32	457	25	6	--	--	6	650
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Utah	0	0	0	--	8	30	7	15	30	200	20	5	--	--	5	900
Wasatch	1	1	2	2.00	4	12	7	12	14	117	20	5	--	--	5	520
REGIONAL TOTALS	3	3	22	7.33	17	54	14	34	76	224	65	16	--	--	16	688
Southern Region																
Beaver	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Northeastern Region																
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Southeastern Region																
Carbon	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STATE TOTALS	3	3	22	7.33	17	54	14	34	76	224	65	16	--	--	16	688



The Columbian sharp-tailed grouse is one of four species of grouse native to Utah. Sharptails were formerly abundant in the valley and foothill areas of northern and central Utah. Sharp-tailed grouse habitats were the most attractive areas for agricultural development and grazing. As a result, sharptail habitat was directly converted to farmland or was seriously impacted by heavy grazing. Pheasants now occupy areas that at one time supported habitat for sharptails.

There was no legal harvest of sharp-tailed grouse in Utah from 1980 through 1997. From 1986 through 1992, the number of birds present on active dancing grounds was substantially greater than in the previous years (Table 1.). It appears sharp-tailed grouse have made a moderate recovery in "core areas." Numbers on the fringe of their range appear to be low. Concurrent with the upswing in sharp-tailed populations has been a succession of mild winters. Since the catastrophic winter of 1983-84, all winters have been normal or milder than normal except 1988-89 and 1992-93. The winter of 1992-93 devastated sharp-tailed grouse populations. In addition, wildland fires in the summer of 1994 destroyed countless acres of sharp-tailed grouse habitat in Box Elder County.

In Box Elder County, habitat associated with existing populations of sharp-tailed grouse has been relatively unchanged since 1983 except that about 100,000 acres in Box Elder County have been entered into the Conservation Reserve Program (CRP). This is benefitting sharp-tailed grouse populations by providing undisturbed nesting and brood-rearing cover.

We have minimal recent data on sharp-tailed grouse populations in the Cache, Weber, and Morgan County areas. By 1984, populations in these areas were at or below minimum viable population levels. Efforts have increased over the past four years to locate "new" dancing grounds in these counties (Table 1.). New "core" sharp-tailed grouse habitat areas are being attributed to CRP lands in these counties.

Sharp-tailed grouse brood count information for Box Elder County in 1997 is shown in Table 2.

Table 1. Summary of sharp-tailed grouse dancing ground counts, 1979-97.

County	Dancing Ground Name	Year 1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Box Elder	West Hills Complex (Located 1977)	15	4	12	0	14	0	18	46	40	33	40**	75	53**	55**	5	6	NC	5	NC
	Hunsaker's Field (Located 1977)	3	0	0	0	0	0	0	18	0	3	0	--	3	32	4	2	NC	2	1
	South White's Valley (Located 1977)	0	0	0	6	0	0	2	0	6	7	3	--	10	13	--	2	NC	5	NC
	North White's Valley #1 (Located 1977)	0	0	0	0	0	0	0	--	18	11	9**	--	14	5	3	7	NC	8	4
	North White's Valley #2 (Located 1995)																	18	NC	22
	Middle Canyon (Located 1991)													9**	14**	2	6	NC	19	15
	Pocatello Valley Complex (Located 197	7	7	19	19	14	5	9	20	20	19	16**	11	4	NC	--	2	NC	NC	NC
	Blue Creek (Located 1991)													6**	5**	0	A	NC	NC	NC
	Howell Valley #1 (Located 1991)													13**	6**	--	--	NC	NC	NC
	Microwave Tower (Located 1987)								6	6	7	9	--	--	NA	--	--	NC	NC	NC
	Sunset Pass (Located 1991)													8**	2**	--	--	NC	NC	NC
	Nucor (Located 1991)													11**	6**	A	--	NC	NC	NC
	Wellsville-Cottonwood (Located 1991)													8**	8	3	2	NC	0	NC
	Snowville-Radio Tower (Located 1991)													8**	A	0	NC	NC	NC	NC
	Johnson Canyon (Located 1994)																6	NC	NC	0
Cache	Bankhead Well (Relocated 1975)	2	2	0	0	--	--	--	--	--	--	--	--	NA	NC	--	--	NC	NC	NC
	Baxter Ridge (Relocated 1975)	--	3	5	3	--	--	--	--	--	--	--	--	NA	NC	--	--	NC	NC	NC
	Crow Mountain Complex (Located 1979)	13	4	11	3	--	--	--	--	--	0	--	--	27**	18**	9	8	NC	NC	NC
	High Creek (Located 1981)			7	--	--	--	--	--	--	0	--	--	22**	NC	--	13	NC	20	NC
	Clarkston (Located 1991)													20**	5**	A	12	NC	NC	NC
	Four Mile #1 (Located 1991)													5**	27**	--	--	NC	7	NC
	Four Mile #2 (Located 1991)													4**		--	--	NC	NC	NC
	McKenzie Flat (Located 1992)														3	--	--	NC	NC	NC
Morgan	Cottonwood (Located 1975)	28	--	--	--	--	--	--	--	--	--	--	--	NA	NC	--	--	NC	NC	NC
	Deep Creek		4	--	--	--	--	--	--	--	--	--	--	NA	NC	--	--	NC	NC	NC
	Bohman Hollow (Located 1991)													11**	NC	--	--	NC	0	NC
Weber	Monastery (Located 1969)	3	0	0	0	--	--	--	--	--	--	--	--	--	NC	--	--	NC	NC	NC
Total Grounds Counted		15	16	17	15	11	2	11	6	8	12	11	2	18	16	9	12	1	9	5
Total Grouse Counted		71	24	57	31	28	5	29	84	90	80	77	86	236	210	26	66	18	66	42
Average Number of Grouse/Ground		4.70	1.50	3.40	2.10	2.50	2.50	2.60	14.00	11.30	6.70	7.00	43.00	13.00	13.00	2.89	5.50	18.00	7.33	8.40

**High sagebrush precluded an accurate count--birds were counted when flushed.
Since visitation by females at any given time is low, an estimated 90% of the grouse seen on the ground are males.
Therefore, this figure is an estimate of the males on the ground.

A = ACTIVE
NA = NOT ACTIVE
NC = NOT COUNTED

Table 2. Sharp-tailed grouse summer inventory, 1997.

Region and County	Distinct Broods #	Distinct Broods Adults	Distinct Broods Young	Mean Brood	Mixed Young & Adults Adults	Mixed Young & Adults Young	Adults w/o Young	Total Adults	Total Young	Total Grouse	Young/ 100 Adults	Vehicle Miles	Hours of Effort Vehicle	Hours of Effort Horse	Hours of Effort Walk	Hours of Effort Total	Birds/ 100 Hr
Northern Region																	
Box Elder	3	3	17	5.67	--	--	3	6	17	23	283	--	--	3	--	3	767
Cache	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	3	3	17	5.67	0	0	3	6	17	23	283	0	0	3	0	3	767
Central Region																	
Juab																	
Salt Lake																	
Sanpete							NOT APPLICABLE										
Tooele																	
Utah																	
Wasatch																	
REGIONAL TOTALS																	
Southern Region																	
Beaver																	
Garfield																	
Iron																	
Kane							NOT APPLICABLE										
Millard																	
Piute																	
Sevier																	
Washington																	
Wayne																	
REGIONAL TOTALS																	
Northeastern Region																	
Daggett																	
Duchesne							NOT APPLICABLE										
Uintah																	
REGIONAL TOTALS																	
Southeastern Region																	
Carbon																	
Emery							NOT APPLICABLE										
Grand																	
San Juan																	
REGIONAL TOTALS																	
STATE TOTALS	3	3	17	5.67	0	0	3	6	17	23	283	0	0	3	0	3	767

The white-tailed ptarmigan (Lagopus leucurus) was introduced into the Uinta Mountains of northeastern Utah in 1976 with the release of birds captured in Colorado. The initial transplant consisted of 22 paired birds released in June 1976. A second release of 35 mixed young and adults was accomplished in September of that same year.

Since introduction in 1976, ptarmigan have dispersed into available habitat from the west, 100 miles to the east in the Uinta Mountains.

Breeding Territory and Brood Surveys

Surveys on the ptarmigan population continue, as time and manpower constraints allow. Two survey techniques are used. A breeding territory survey is conducted from mid- to late June. A brood survey is conducted from mid- to late August. Results of the last 10 years of survey data are found in Tables 1 and 2.

These surveys have not been conducted over the past several years due to the remoteness of ptarmigan habitat and other constraints on field biologist's time.

Harvest

Forty-seven hunters obtained free permits to hunt ptarmigan in Utah in 1997 (Table 3). An estimated 18 hunters actually pursued ptarmigan and 4 birds were killed.

Many permits are obtained by sportsmen who think they might hunt during a fishing or big game hunting trip, but don't seriously plan on the ptarmigan hunt.

Results of the 1997 season are shown in Table 3 of this section. The trend of these data since 1982 is shown in Table 3 and Figures 1 and 2. The 1997 season compared to 1996 and the previous 15-year average follows:

	1997	Percent change from 1996	Percent change from Average
Permits sold	47	+57	+58
Ptarmigan hunters	18	+50	+45
Hunter-days afield	37	+131	+92
Ptarmigan harvest	4	-71	-68
Ptarmigan per hunter	0.22	-81	-81
Ptarmigan per hunter-day	0.11	-88	-85

Figure 1. Ptarmigan harvest statistics, 1982-97.

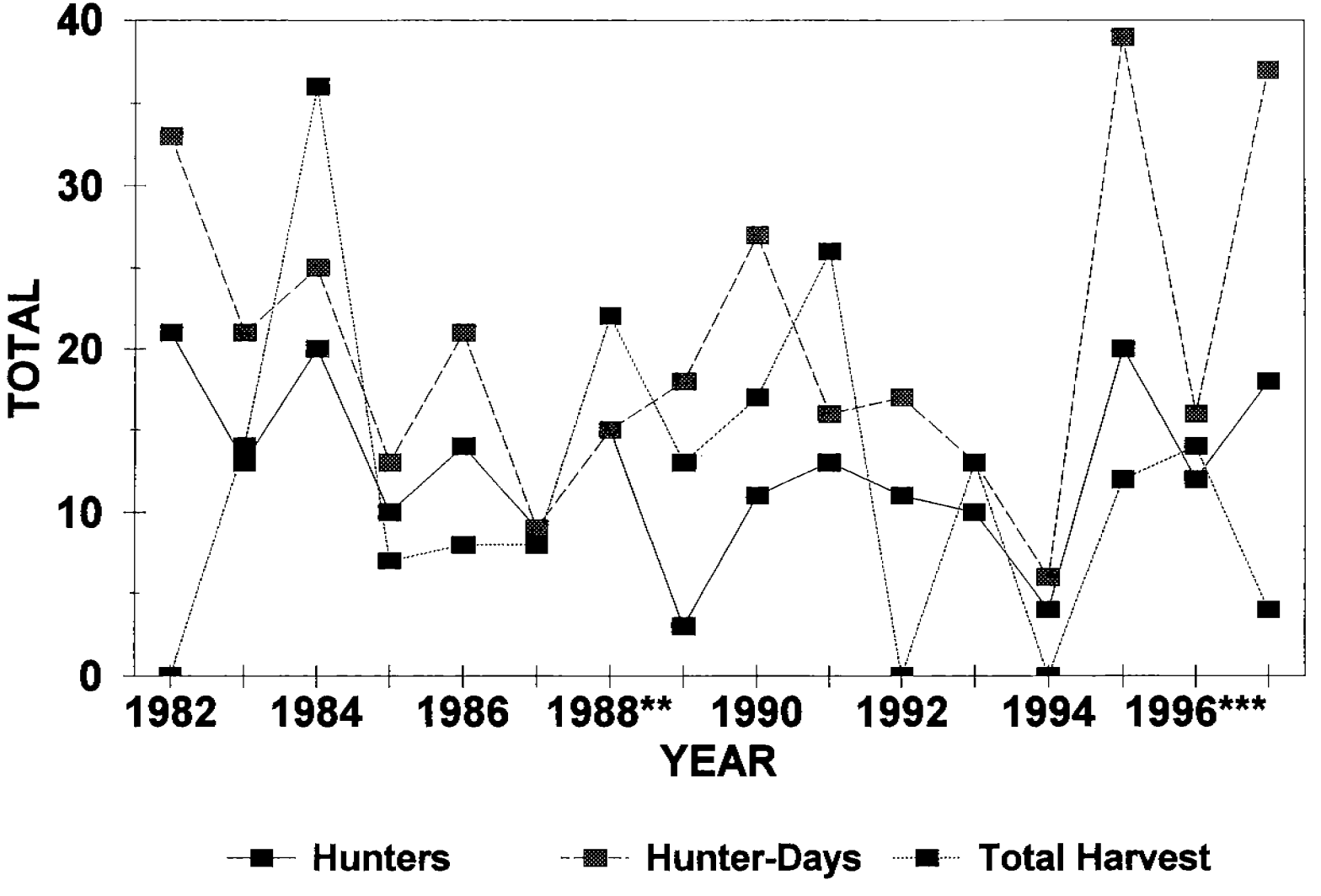


Figure 2. Ptarmigan hunting success, 1982-97.

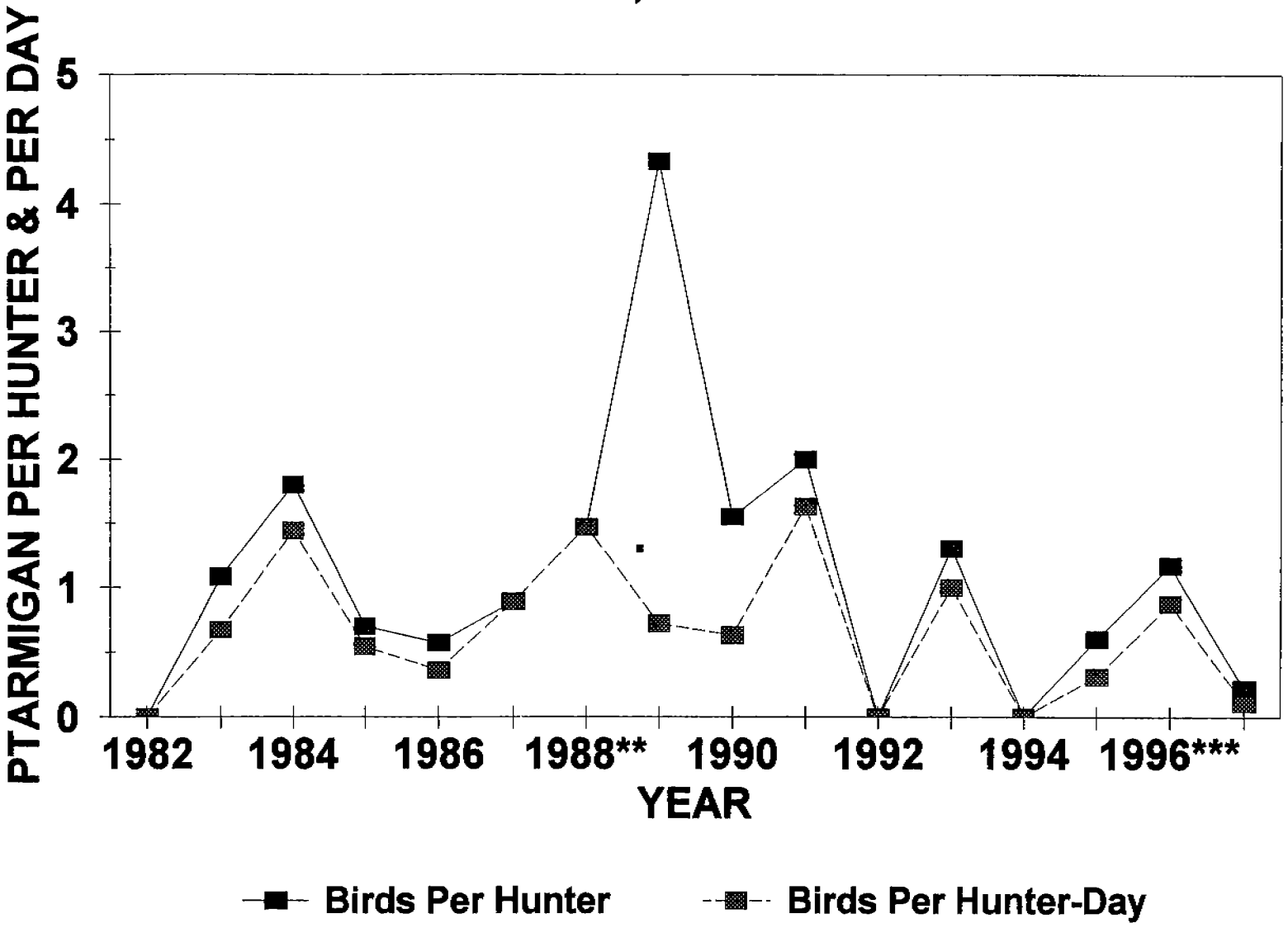


Table 1. Summary of white-tailed ptarmigan breeding territories (pairs), 1987-97.

County	Location	1987	1988	1989(1)	1990	1991	1992	1993	1994	1995	1996	1997
Duchesne	Painter Basin											
Duchesne	Gilbert Basin		NO	NO	NO	NO	NO	NO	NO		NO	NO
Duchesne	Atwood Basin											
Duchesne	Yellowstone River		SURVEY	SURVEY	SURVEY	SURVEY	SURVEY	SURVEY	SURVEY		SURVEY	SURVEY
Summit	Henry's Fork											
Summit	Flat Top Mountain	3										
Summit	Lake Blanchard											
Summit	Beaver Creek											
Summit	Smith's Fork											
Summit	Burnt Fork Drainage									0		
Uintah	Leidy Peak											

(1) Investigator was incapacitated.

Table 2. White-tailed ptarmigan brood inventory, 1987-97.

Area:	DATE										
Statistics	8/87	8/25-31	8/89	8/90	8/91	8/92	8/93	8/94	8/95	8/96	8/97
Painter Basin											
n	--	--	--	--	--	--	--	--	--	--	--
Mean Brood	--	--	--	--	--	--	--	--	--	--	--
Young/100 Adult Hens	--	--	--	--	--	--	--	--	--	--	--
Hens w/o Broods	--	--	--	--	--	--	--	--	--	--	--
Adult Males	--	--	--	--	--	--	--	--	--	--	--
Henry's Fork		(e)									
n	3	3	--	--	--	--	--	--	--	--	--
Mean Brood	4.00	2.33	--	--	--	--	--	--	--	--	--
Young/100 Adult Hens	217	233	--	--	--	--	--	--	--	--	--
Hens w/o Broods	3	6	--	--	--	--	--	--	--	--	--
Adult Males	--		--	--	--	--	--	--	--	--	--
Yellowstone											
n	--		2	1	--	--	--	--	--	--	--
Mean Brood	--		4.00	4.00	--	--	--	--	--	--	--
Young/100 Adult Hens	--		366	400	--	--	--	--	--	--	--
Hens w/o Broods	--		4	0	--	--	--	--	--	--	--
Adult Males	--		18	0	--	--	--	--	--	--	--
Smith's Fork											
n			--	--	--	--	--	--	--	--	--
Mean Brood	6.00		--	--	--	--	--	--	--	--	--
Young/100 Adult Hens	120		--	--	--	--	--	--	--	--	--
Hens w/o Broods	4		--	--	--	--	--	--	--	--	--
Adult Males			--	--	--	--	--	--	--	--	--
Atwood Basin											
n			--	--	1	--	--	--	--	--	--
Mean Brood			--	--	2.00	--	--	--	--	--	--
Young/100 Adult Hens			--	--	200	--	--	--	--	--	--
Hens w/o Broods			--	--	0	--	--	--	--	--	--
Adult Males			--	--	0	--	--	--	--	--	--

Table 2. (continued)

Area:	DATE										
Statistics	8/87	8/25-31	8/89	8/90	8/91	8/92	8/93	8/94	8/95	8/96	8/97
Flat Top Mountain		(e)									
n	1	3	--	--	--	--	--	--	--	--	--
Mean Brood	6.00	4.33	--	--	--	--	--	--	--	--	--
Young/100 Adult Hens	900	433	--	--	--	--	--	--	--	--	--
Hens w/o Broods	0	9	--	--	--	--	--	--	--	--	--
Adult Males	0	0	--	--	--	--	--	--	--	--	--
Little E. Fork - Black's Fork											
n	--		--	--	--	--	--	--	--	--	--
Mean Brood	--		--	--	--	--	--	--	--	--	--
Young/100 Adult Hens	--		--	--	--	--	--	--	--	--	--
Hens w/o Broods	--		--	--	--	--	--	--	--	--	--
Adult Males	--		--	--	--	--	--	--	--	--	--
Rainbow Basin											
n	--		--	--	--	--	--	--	--	--	--
Mean Brood	--		--	--	--	--	--	--	--	--	--
Young/100 Adult Hens	--		--	--	--	--	--	--	--	--	--
Hens w/o Broods	--		--	--	--	--	--	--	--	--	--
Adult Males	--		--	--	--	--	--	--	--	--	--
Gilbert Basin											
n	--		--	--	--	--	--	--	--	--	--
Mean Brood	--		--	--	--	--	--	--	--	--	--
Young/100 Adult Hens	--		--	--	--	--	--	--	--	--	--
Hens w/o Broods	--		--	--	--	--	--	--	--	--	--
Adult Males	--		--	--	--	--	--	--	--	--	--
Samuel's Draw											
n	--		--	--	--	--	--	--	--	--	--
Mean Brood	--		--	--	--	--	--	--	--	--	--
Young/100 Adult Hens	--		--	--	--	--	--	--	--	--	--
Hens w/o Broods	--		--	--	--	--	--	--	--	--	--
Adult Males	--		--	--	--	--	--	--	--	--	--
Leidy Peak											
n	1		--	--	--	--	--	--	--	--	--
Mean Brood	2.00		--	--	--	--	--	--	--	--	--
Young/100 Adult Hens	200		--	--	--	--	--	--	--	--	--
Hens w/o Broods	0		--	--	--	--	--	--	--	--	--
Adult Males	0		--	--	--	--	--	--	--	--	--

Table 2. (continued)

Area:	DATE										
Statistics	8/87	8/25-31	8/89	8/90	8/91	8/92	8/93	8/94	8/95	8/96	8/97
East F. Black's Fork											
n	--		--	--	--	--	--	--	--	--	--
Mean Brood	--		--	--	--	--	--	--	--	--	--
Young/100 Adult Hens	--		--	--	--	--	--	--	--	--	--
Hens w/o Broods	--		--	--	--	--	--	--	--	--	--
Adult Males	--		--	--	--	--	--	--	--	--	--
Joulious Creek		(e)									
n	1	0	--	--	--	--	--	--	--	--	--
Mean Brood	1.00	0.00	--	--	--	--	--	--	--	--	--
Young/100 Adult Hens	300	0	--	--	--	--	--	--	--	--	--
Hens w/o Broods	0	4	--	--	--	--	--	--	--	--	--
Adult Males	0	0	--	--	--	--	--	--	--	--	--
TOTALS		(e)									
n	6	6	2	1	1	--	--	--	--	--	--
Mean Brood	3.86	3.33	4.00	4.00	2.00	--	--	--	--	--	--
Young/100 Adult Hens	236	333	366	400	200	--	--	--	--	--	--
Hens w/o Broods	7	19	4	0	0	--	--	--	--	--	--
Adult Males	0	0		0	0	--	--	--	--	--	--
Total Birds Observed	47	45	18	5	3	--	--	--	--	--	--

e Mixed Adults
n Number of Broods

Table 3. Summary of white-tailed ptarmigan harvest statistics, 1982-97. Estimates are calculated based upon 100 percent samples or projection factors.

Year	Permits Sold	Hunters Afield	Hunter-Days Afield	Total Harvest	Birds Per Hunter	Birds Per Hunter-Day	Crippling Loss/ 100 Bagged	Ptarmigan Observed	% Hunters Observing Ptarmigan	Immatures per 100 Adults
1982	48	21	33	0	0.00	0.00	0	0	--	--
1983	31	13	21	14	1.08	0.67	0	25	30	--
1984	28	20	25	36	1.80	1.44	0	--	--	--
1985	55	10	13	7	0.70	0.54	14	9	14	--
1986	49	14	21	8	0.57	0.36	0	8	22	--
1987	45	9	9	8	0.89	0.89	--	--	--	--
1988**	28	15	15	22	1.47	1.47	--	59	--	4.50(11)
1989	20	3	18	13	4.33	0.72	--	35	--	--
1990	17	11	27	17	1.55	0.63	0	28	35	--
1991	15	13	16	26	2.00	1.63	0	95	50	--
1992	17	11	17	0	0.00	0.00	0	56	36	--
1993	10	10	13	13	1.30	1.00	0	140	38	--
1994	14	4	6	0	0.00	0.00	0	3	100	--
1995***	39	20	39	12	0.60	0.31	0	31	11	--
1996***	30	12	16	14	1.17	0.88	0	106	29	--
1997***	47	18	37	4	0.22	0.11	0	17	--	--
STATE TOTALS (1982-97)	493	204	326	194				612		
STATE AVERAGES (1982-96)	30	12	19	13	1.16	0.70		40	24	

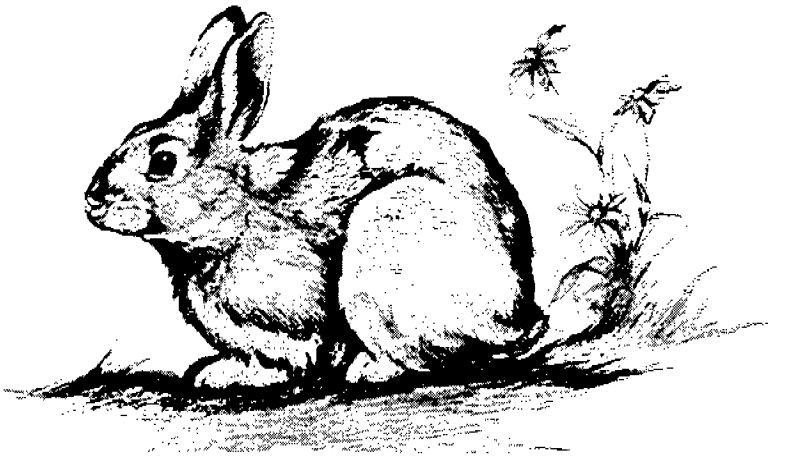
**For the first time a handling fee of $2.00 per permit was charged.

***Permit still required, but at no charge

Projection Factor = 1.38235294118 (number of permits sold/number of questionnaires returned)

47 permits sold

34 questionnaires returned



Cottontail populations remain below a high in 1988.

Summer roadside counts indicated a decreased population density statewide, and reproduction was below 1996. Harvest statistics indicated decreased hunter success, and is still 58 percent below average.

Hunter numbers decreased 16 percent from the previous year and remained well below average.

COTTONTAIL RABBIT

Roadside Counts

Results of the annual roadside counts for 1997 are shown in Table 1 and Figure 1. The long-term trend of cottontails observed per mile and young per 100 adults is shown in Tables 2 and 3. Indices for 1997 compared to 1996 and the 10-year (1987-96) average follow:

	1997	Percent change from 1996	Percent change from Average
Total miles driven	521	+5	-35
Total cottontails counted	127	-55	-56
Cottontails observed per mile	0.24	-58	-38
Young observed per 100 adults	98	-40	+28

Production data from roadside counts indicated an decrease in the statewide cottontail population. The cottontail young per 100 adults index decreased 40 percent from 1996, but was 28 percent above the long-term average.

Harvest

Hunter Questionnaire

Results of the 1997 hunter questionnaire are found in Table 4. Trends of cottontails bagged per hunter-day, percent of harvest and percent of pressure (hunter-days) by county are found in Tables 5-7. Trends of statewide harvest statistics are found in Table 8 and Figures 2 and 3. Results of the 1997 season compared to 1996 and the previous 30-year average follow:

	1997	Percent change from 1996	Percent change from Average
Cottontail hunters	26,263	-15	-47
Cottontail harvest	61,109	-26	-58
Hunter-days afield	52,587	-18	-45
Cottontails per hunter-day	1.16	-10	-19
Cottontails per hunter	4.98	-13	-16

Total hunters decreased 15 percent from 1996. Total harvest decreased 26 percent. Total harvest was 58 percent below average. Hunter success was 19 percent below average. Harvest data indicate another year of below average populations of cottontails.

Field Bag Checks

Results of field bag checks for 1997 are shown in Table 9. Trends of hunter success as determined by bag checks are shown in Table 10. Following is a comparison of the 1997 field bag check data to 1996 and the 10-year (1987-96) average.

	1997	Percent change from 1996	Percent change from Average
Total hunters checked	--	--	--
Total hours hunted	--	--	--
Cottontails per hunter (complete hunts)	--	--	--
Cottontails bagged per 100 hours	--	--	--
Hours per hunter day	--	--	--
Hours per cottontail bagged (complete hunts)	--	--	--

No cottontail field bag check data was collected in 1997.

Figure 1. Cottontail rabbit population indices trends, 1979-97.

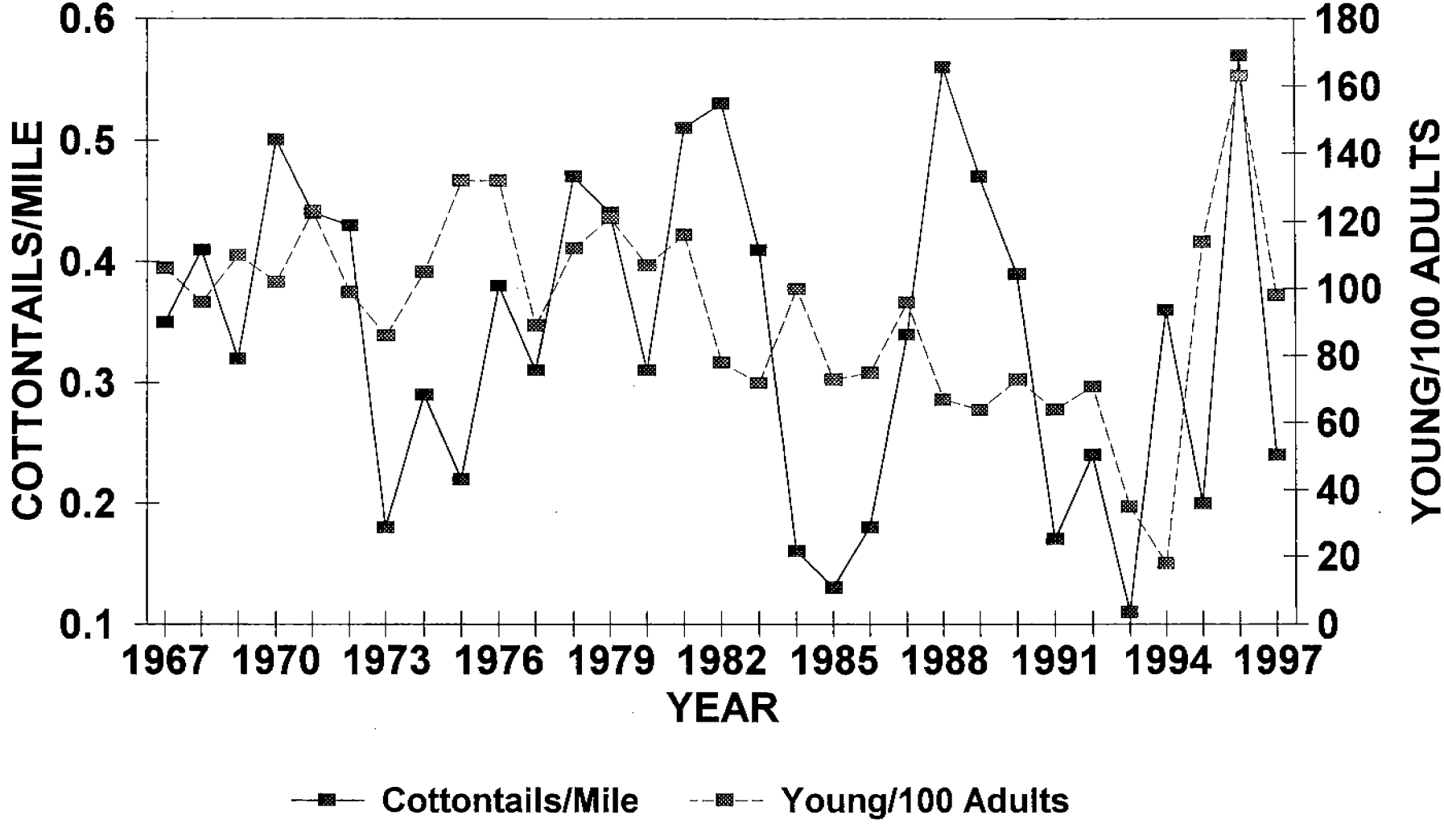


Figure 2. Statewide trends of c/t rabbit harvest statistics, 1967-97.

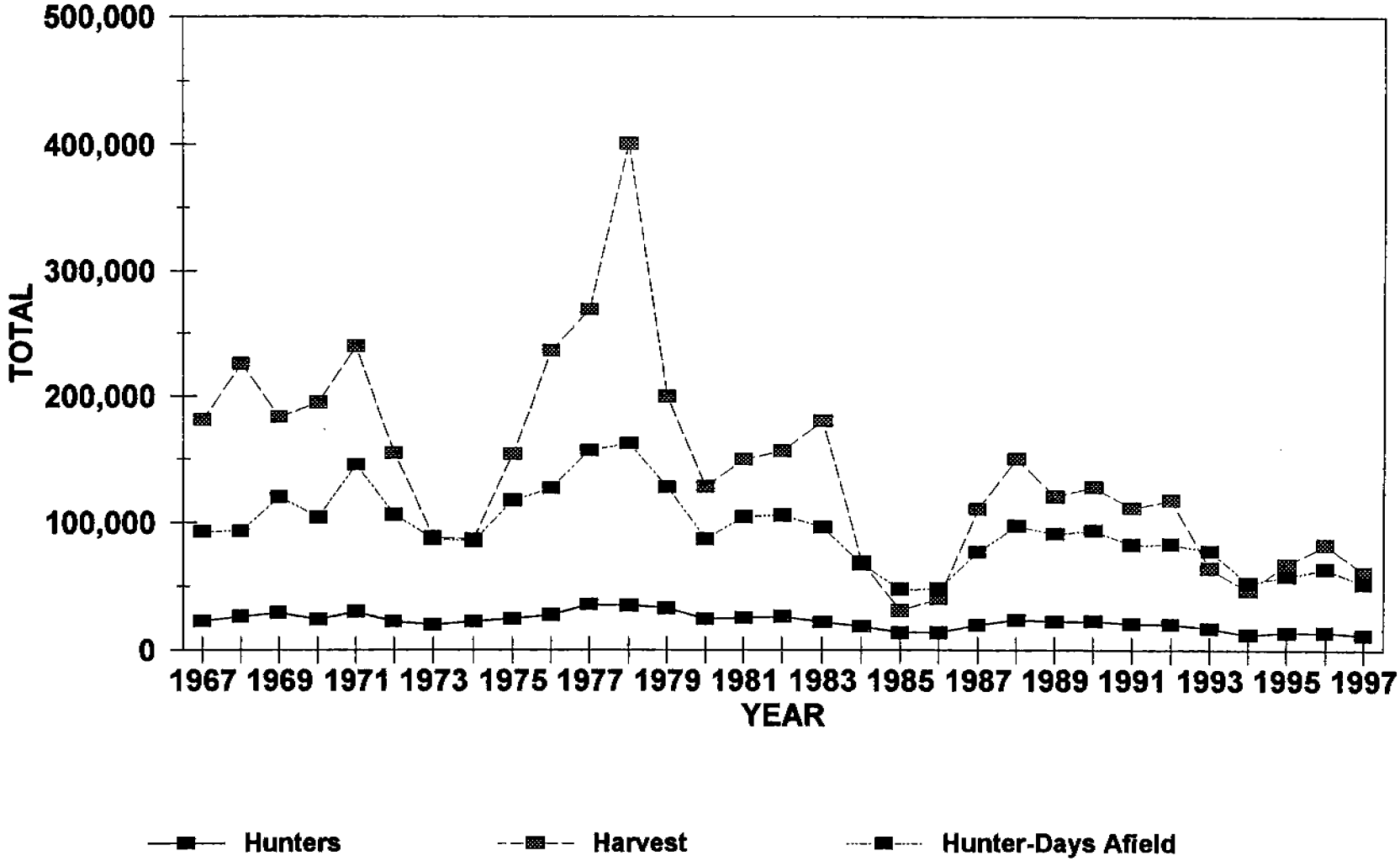


Figure 3. Statewide trends of c/t rabbit hunter success rates, 1967-97.

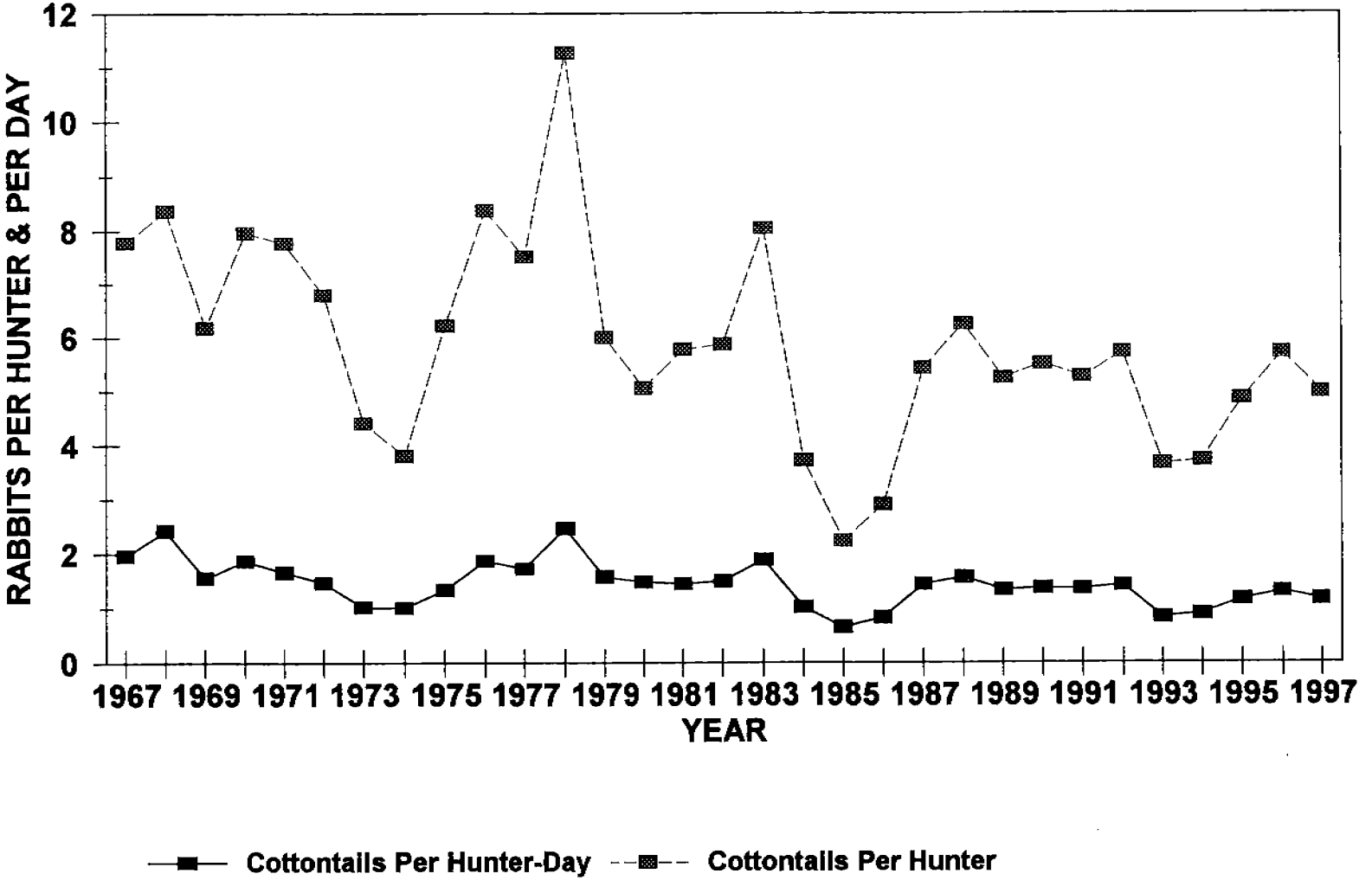


Table 1. Cottontail rabbit summer inventory summary, 1997.

Region and County	Miles Driven	Rabbits Observed				Young/ 100 Adults	Rabbits/ Mile
		Adults	Young	Unclassified	Total		
Northern Region							
Box Elder	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--
Central Region							
Juab	90	0	0	0	0	ERR	0.00
Salt Lake	--	--	--	--	--	--	--
Sanpete	90	0	0	0	0	ERR	0.00
Tooele	90	0	2	0	2	ERR	0.02
Utah	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--
REGIONAL TOTALS	270	0	2	0	2	ERR	0.01
Southern Region							
Beaver	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--
Northeastern Region							
Daggett	70	28	25	3	56	89	0.80
Duchesne	91	10	11	9	30	110	0.33
Uintah	90	17	16	6	39	94	0.43
REGIONAL TOTALS	251	55	52	18	125	95	0.50
Southeastern Region							
Carbon	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--
STATE TOTALS	521	55	54	18	127	98	0.24

Table 2. Summary of cottontail rabbits observed per mile during summer inventory, 1987-97.

Region and County	Year											Average
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1987-96
Northern Region												
Box Elder	0.03	--	0.03	0.39	0.10	0.08	--	--	--	--	--	
Cache	--	--	--	--	--	--	--	--	--	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	0.03	--	0.03	0.39	0.10	0.08	--	--	--	--	--	0.13
Central Region												
Juab	0.00	0.54	0.30	0.23	--	--	--	--	0.01	0.02	0.00	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	0.47	0.22	0.65	0.09	0.15	0.01	--	0.07	0.14	0.00	
Tooele	0.02	0.18	--	--	--	0.03	--	--	0.02	0.00	0.02	
Utah	--	--	--	--	--	--	--	--	--	--	--	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	0.02	0.36	0.26	0.45	0.09	0.08	0.01	--	0.04	0.06	0.01	0.15
Southern Region												
Beaver	0.04	0.06	--	--	--	--	--	--	--	--	--	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	0.26	--	--	--	--	--	--	--	--	--	--	
Kane	0.97	1.09	--	--	--	--	--	--	--	--	--	
Millard	0.09	0.09	--	0.08	--	--	--	--	--	--	--	
Piute	0.05	--	--	--	--	--	--	--	--	--	--	
Sevier	--	--	--	--	--	--	--	--	--	--	--	
Washington	0.12	0.36	0.33	--	--	--	--	--	--	--	--	
Wayne	0.24	0.34	--	--	0.83	0.21	--	--	--	--	--	
REGIONAL TOTALS	0.27	0.33	0.33	0.08	0.83	0.21	--	--	--	--	--	0.34
Northeastern Region												
Daggett	0.66	0.85	0.50	0.55	--	0.28	0.07	0.07	0.50	0.94	0.80	
Duchesne	0.86	1.49	1.04	0.23	0.03	0.60	0.23	0.56	0.39	1.69	0.33	
Uintah	0.36	1.26	1.40	1.00	--	0.18	0.17	0.24	0.23	0.82	0.43	
REGIONAL TOTALS	0.65	1.18	0.91	0.57	0.03	0.38	0.16	0.36	0.39	1.21	0.50	0.58
Southeastern Region												
Carbon	0.33	0.41	0.34	0.02	0.20	0.21	0.13	--	--	--	--	
Emery	0.40	0.34	0.33	0.40	0.37	0.34	0.06	--	--	--	--	
Grand	--	0.10	0.06	0.01	0.05	0.13	0.20	--	--	--	--	
San Juan	0.29	0.59	0.55	0.80	0.28	0.34	0.16	--	--	--	--	
REGIONAL TOTALS	0.38	0.36	0.32	0.36	0.24	0.26	0.14	--	--	--	--	0.29
STATE TOTALS	0.34	0.56	0.47	0.39	0.17	0.24	0.11	0.36	0.20	0.57	0.24	0.34

Table 3. Summary of cottontail rabbit young per 100 adults, 1987-97.

Region and County	Year											Average
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1987-96
Northern Region												
Box Elder	25	--	200	200	13	67	--	--	--	--	--	
Cache	--	--	--	--	--	--	--	--	--	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	25	--	200	200	13	67	--	--	--	--	--	101
Central Region												
Juab	0	20	13	--	--	--	--	--	0	100	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	88	40	40	50	50	--	--	133	100	--	
Tooele	100	120	--	--	--	100	--	--	--	--	--	
Utah	--	--	--	--	--	--	--	--	--	--	--	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	100	57	23	27	50	57	--	--	125	100	--	67
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	--	--	--	--	--	--	--	--	--	--	--	
Kane	111	149	--	--	--	--	--	--	--	--	--	
Millard	114	110	--	100	--	--	--	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	--	--	--	--	--	--	--	--	--	--	--	
Washington	175	100	131	--	--	--	--	--	--	--	--	
Wayne	2100	244	--	--	369	138	--	--	--	--	--	
REGIONAL TOTALS	137	136	131	100	369	138	--	--	--	--	--	168
Northeastern Region												
Daggett	116	30	59	55	--	89	33	--	100	177	89	
Duchesne	24	39	29	--	50	138	36	17	183	172	110	
Uintah	264	170	239	95	--	10	80	50	50	156	94	
REGIONAL TOTALS	74	46	82	58	50	95	47	18	113	170	95	75
Southeastern Region												
Carbon	567	500	400	400	--	25	--	--	--	--	--	
Emery	54	50	--	--	--	--	--	--	--	--	--	
Grand	--	--	--	--	--	40	--	--	--	--	--	
San Juan	47	49	80	60	54	37	18	--	--	--	--	
REGIONAL TOTALS	100	64	110	67	100	33	18	--	--	--	--	70
STATE TOTALS	96	67	64	73	64	71	35	18	114	163	98	77

Table 4. Summary of cottontail rabbit hunter success and distribution of harvest and hunting pressure by region and county, 1997.

REGION AND COUNTY	SAMPLE SIZE*	HUNTER-DAYS AFIELD	RABBITS BAGGED	RABBITS PER HUNTER-DAY	% OF PRESSURE	% OF HARVEST
NORTHERN REGION						
BOX ELDER	67	3,845	3,762	0.98	7.31	6.16
CACHE	11	290	83	0.29	0.55	0.14
DAVIS	0	0	0	0.00	0.00	0.00
MORGAN	7	270	124	0.46	0.51	0.20
RICH	18	623	353	0.57	1.19	0.58
SUMMIT	9	457	581	1.27	0.87	0.95
WEBER	6	207	124	0.60	0.40	0.20
REGIONAL TOTALS	118	5,695	5,030	0.88	10.83	8.23
CENTRAL REGION						
JUAB	34	2,224	1,621	0.73	4.23	2.65
SALT LAKE	8	789	872	1.11	1.50	1.43
SANPETE	19	1,288	872	0.68	2.45	1.43
TOOELE	76	4,780	2,660	0.56	9.09	4.35
UTAH	55	3,034	1,496	0.49	5.77	2.45
WASATCH	4	415	41	0.10	0.79	0.07
REGIONAL TOTALS	196	12,533	7,565	0.60	23.83	12.38
SOUTHERN REGION						
BEAVER	6	290	353	1.21	0.55	0.58
GARFIELD	3	332	436	1.31	0.63	0.71
IRON	4	166	166	1.00	0.32	0.27
KANE	5	623	665	1.07	1.19	1.09
MILLARD	27	2,203	2,078	0.94	4.19	3.40
PIUTE	1	41	0	0.00	0.08	0.00
SEVIER	21	1,517	997	0.66	2.89	1.63
WASHINGTON	13	1,912	1,039	0.54	3.64	1.70
WAYNE	9	394	1,371	3.47	0.75	2.24
REGIONAL TOTALS	89	7,482	7,108	0.95	14.23	11.63
NORTHEASTERN REGION						
DAGGETT	22	1,184	3,388	2.86	2.25	5.54
DUCHESNE	76	5,632	8,355	1.48	10.71	13.67
UINTAH	86	9,976	19,392	1.94	18.97	31.73
REGIONAL TOTALS	184	16,794	31,136	1.85	31.94	50.95
SOUTHEASTERN REGION						
CARBON	27	3,284	3,200	0.97	6.25	5.24
EMERY	27	3,076	3,741	1.22	5.85	6.12
GRAND	9	1,205	665	0.55	2.29	1.09
SAN JUAN	16	2,307	2,535	1.10	4.39	4.15
REGIONAL TOTALS	79	9,873	10,143	1.03	18.77	16.60
UNKNOWN	1	207	124	0.60	0.40	0.20
STATE TOTALS	667	52,587	61,109	1.16	100.00	100.00

Total hunter trips from questionnaire returns.

Table 5. Summary of cottontail rabbits bagged per hunter-day by region and county, 1990-97.

Region and County	Year							
	1990	1991	1992	1993	1994	1995	1996	1997
Northern Region								
Box Elder	1.49	1.31	1.46	0.71	0.82	1.00	0.78	6.16
Cache	0.87	1.41	1.50	0.76	1.30	0.76	0.56	0.14
Davis	0.25	1.50	0.00	0.08	0.00	0.50	2.67	0.00
Morgan	0.43	1.53	1.08	0.33	0.47	4.00	2.00	0.20
Rich	2.52	2.62	2.50	0.56	1.21	1.34	1.72	0.58
Summit	0.72	1.24	0.81	1.22	1.39	0.73	1.00	0.95
Weber	1.06	0.88	0.89	0.64	0.28	0.88	1.27	0.20
REGIONAL TOTALS	**1.55**	**1.47**	**1.50**	**0.71**	**0.77**	**0.97**	**0.96**	**8.23**
Central Region								
Juab	1.55	1.68	1.54	0.83	0.64	0.49	1.08	2.65
Salt Lake	0.79	0.72	0.97	0.57	2.00	0.57	2.16	1.43
Sanpete	0.85	1.26	0.86	0.40	1.02	0.75	0.85	1.43
Tooele	1.08	1.23	1.26	0.48	0.70	0.53	0.69	4.35
Utah	0.84	0.99	1.00	0.56	0.46	0.64	1.08	2.45
Wasatch	0.69	1.06	1.70	0.83	1.57	0.21	0.18	0.07
REGIONAL TOTALS	**1.03**	**1.24**	**1.19**	**0.57**	**0.67**	**0.56**	**0.98**	**12.38**
Southern Region								
Beaver	1.17	0.69	2.44	0.67	1.50	0.39	1.00	0.58
Garfield	1.03	0.46	0.52	1.53	1.04	1.36	0.38	0.71
Iron	1.21	1.06	0.94	0.80	1.05	0.68	0.96	0.27
Kane	0.90	0.93	0.97	1.62	0.91	3.50	0.10	1.09
Millard	1.84	1.15	1.35	1.56	0.69	0.88	0.83	3.40
Piute	1.36	0.57	0.00	0.63	0.33	0.80	1.25	0.00
Sevier	1.45	0.65	1.27	0.69	0.67	0.39	1.04	1.63
Washington	0.89	0.68	1.03	1.02	1.01	1.13	1.40	1.70
Wayne	1.34	1.20	2.26	0.73	1.06	1.38	2.05	2.24
REGIONAL TOTALS	**1.30**	**0.89**	**1.32**	**1.11**	**0.93**	**0.89**	**1.04**	**11.63**
Northeastern Region								
Daggett	1.79	1.83	2.00	1.47	1.52	3.55	2.87	5.54
Duchesne	1.83	2.15	1.97	1.16	1.43	2.40	1.99	13.67
Uintah	2.41	1.61	1.74	0.82	1.55	2.77	2.66	31.73
REGIONAL TOTALS	**2.10**	**1.86**	**1.87**	**1.04**	**1.51**	**2.61**	**2.34**	**50.95**
Southeastern Region								
Carbon	1.43	1.75	1.51	0.69	0.89	1.19	1.17	5.24
Emery	1.06	1.03	1.43	0.88	0.90	1.24	1.36	6.12
Grand	1.58	1.75	1.66	1.86	1.21	1.21	0.40	1.09
San Juan	1.37	1.87	2.34	0.81	0.97	1.14	0.53	4.15
REGIONAL TOTALS	**1.28**	**1.50**	**1.63**	**0.88**	**0.94**	**1.19**	**0.95**	**16.60**
Unknown counties	0.00	0.00	0.00	1.40	0.00	1.07	3.00	0.20
STATE TOTALS	1.32	1.36	1.35	1.41	0.83	1.16	1.29	100.00

Table 6. Percentage distribution of cottontail rabbit harvest by region and county, 1990-97.

Region and County	Year							
	1990	1991	1992	1993	1994	1995	1996	1997
Northern Region								
Box Elder	9.84	9.06	13.30	7.38	8.84	8.29	6.84	6.16
Cache	1.07	1.61	1.50	2.04	1.60	0.55	0.39	0.14
Davis	0.02	0.14	0.00	0.03	0.00	0.14	0.45	0.00
Morgan	0.05	0.41	0.65	0.12	0.56	0.12	0.62	0.20
Rich	6.07	4.14	4.31	0.56	0.85	1.36	2.27	0.58
Summit	0.63	2.00	0.79	0.97	0.41	0.64	0.36	0.95
Weber	0.27	0.45	0.59	0.62	0.33	1.21	0.53	0.20
REGIONAL TOTALS	**17.95**	**17.80**	**21.14**	**11.71**	**12.56**	**12.31**	**11.47**	**8.23**
Central Region								
Juab	5.86	7.68	7.50	6.20	4.09	1.53	2.30	2.65
Salt Lake	0.68	0.36	1.09	0.97	0.30	0.35	3.03	1.43
Sanpete	3.34	2.80	3.39	0.97	4.09	1.62	2.55	1.43
Tooele	11.60	16.76	15.72	10.18	10.59	5.83	4.35	4.35
Utah	6.51	6.20	6.42	5.28	4.42	5.52	7.69	2.45
Wasatch	0.44	1.09	1.10	0.59	0.41	0.32	0.08	0.07
REGIONAL TOTALS	**28.43**	**34.88**	**35.22**	**24.20**	**23.89**	**15.16**	**20.00**	**12.38**
Southern Region								
Beaver	0.44	0.92	1.51	0.18	3.90	0.92	0.31	0.58
Garfield	1.16	0.09	0.17	0.86	1.00	1.42	0.17	0.71
Iron	2.02	1.03	1.03	1.86	2.38	1.62	1.46	0.27
Kane	0.90	1.33	0.50	2.15	1.49	0.81	0.03	1.09
Millard	5.02	4.18	4.99	8.29	3.75	1.73	2.52	3.40
Piute	0.61	0.06	0.00	0.15	0.11	0.12	0.14	0.00
Sevier	3.07	1.75	1.79	2.27	2.23	0.64	4.10	1.63
Washington	2.02	1.34	0.94	6.96	6.24	5.95	2.75	1.70
Wayne	1.08	1.12	0.92	0.71	1.30	0.64	1.15	2.24
REGIONAL TOTALS	**16.33**	**11.84**	**11.85**	**23.43**	**22.40**	**13.84**	**12.62**	**11.63**
Northeastern Region								
Daggett	2.37	3.28	1.63	3.13	1.19	1.13	1.85	5.54
Duchesne	8.55	10.98	8.67	12.95	5.83	17.48	17.39	13.67
Uintah	13.44	9.10	7.25	8.29	11.55	21.55	22.05	31.73
REGIONAL TOTALS	**24.27**	**23.36**	**17.55**	**24.37**	**18.57**	**40.15**	**41.29**	**50.95**
Southeastern Region								
Carbon	5.83	5.04	6.05	4.22	10.25	6.09	5.29	5.24
Emery	4.20	3.26	4.13	4.19	4.20	5.00	5.64	6.12
Grand	0.66	0.66	0.73	2.69	5.60	2.72	1.37	1.09
San Juan	2.33	3.15	3.33	2.39	5.50	3.38	1.18	4.15
REGIONAL TOTALS	**13.02**	**12.12**	**14.24**	**13.48**	**22.55**	**17.19**	**14.11**	**16.60**
Unknown counties	0.00	0.00	0.00	2.80	0.00	1.36	0.50	0.20
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 7. Percentage distribution of cottontail rabbit hunting pressure by region and county, 1990-97.

Region and County	Year							
	1990	1991	1992	1993	1994	1995	1996	1997
Northern Region								
Box Elder	9.00	9.33	12.87	8.60	9.55	9.65	11.30	7.31
Cache	1.67	1.53	1.41	2.22	1.06	0.84	0.91	0.55
Davis	0.09	0.13	0.00	0.29	0.33	0.33	0.22	0.00
Morgan	0.15	0.36	0.85	0.29	1.06	0.03	0.40	0.51
Rich	3.28	2.12	2.44	0.83	0.63	1.17	1.71	1.19
Summit	1.19	2.16	1.37	0.66	0.93	1.00	0.47	0.87
Weber	0.35	0.69	0.94	0.80	1.06	1.61	0.54	0.40
REGIONAL TOTALS	**15.74**	**16.33**	**19.88**	**13.70**	**14.64**	**14.64**	**15.55**	**10.83**
Central Region								
Juab	5.15	6.16	6.88	6.19	5.72	3.65	2.76	4.23
Salt Lake	1.17	0.67	1.58	1.41	0.13	0.70	1.82	1.50
Sanpete	5.35	2.98	5.56	2.00	3.57	2.51	3.89	2.45
Tooele	14.61	18.35	17.65	17.38	13.39	12.76	8.14	9.09
Utah	10.50	8.43	9.06	7.73	8.50	10.05	9.19	5.77
Wasatch	0.86	1.39	0.92	0.58	0.23	1.77	0.62	0.79
REGIONAL TOTALS	**37.63**	**37.98**	**41.65**	**35.29**	**31.54**	**31.45**	**26.41**	**23.83**
Southern Region								
Beaver	0.51	1.79	0.88	0.22	2.31	2.78	0.40	0.55
Garfield	1.54	0.27	0.45	0.46	0.86	1.21	0.58	0.63
Iron	2.27	1.30	1.54	1.93	2.02	2.75	1.96	0.32
Kane	1.36	1.91	0.73	1.10	1.45	0.27	0.36	1.19
Millard	3.72	4.92	5.21	4.39	4.86	2.28	3.96	4.19
Piute	0.62	0.15	0.04	0.19	0.30	0.17	0.15	0.08
Sevier	2.88	3.61	1.99	2.71	2.98	1.88	5.09	2.89
Washington	3.10	2.67	1.28	5.63	5.49	6.10	2.54	3.64
Wayne	1.10	1.26	0.58	0.80	1.09	0.54	0.73	0.75
REGIONAL TOTALS	**17.10**	**17.89**	**12.70**	**17.43**	**21.36**	**17.95**	**15.76**	**14.23**
Northeastern Region								
Daggett	1.80	2.42	1.15	1.75	0.69	0.37	0.84	2.25
Duchesne	6.36	6.87	6.22	9.26	3.64	8.44	11.33	10.71
Uintah	7.55	7.61	5.88	8.31	6.64	9.01	10.72	18.97
REGIONAL TOTALS	**15.71**	**16.90**	**13.25**	**19.33**	**10.98**	**17.82**	**22.88**	**31.94**
Southeastern Region								
Carbon	5.55	3.89	5.66	5.02	10.28	5.96	6.54	6.25
Emery	5.39	4.25	4.08	3.95	4.13	4.66	5.38	5.85
Grand	0.57	0.50	0.62	1.19	1.92	2.61	4.40	2.29
San Juan	2.31	2.27	2.01	2.44	5.06	3.45	2.87	4.39
REGIONAL TOTALS	**13.82**	**10.91**	**12.37**	**12.60**	**21.39**	**16.68**	**19.18**	**18.77**
Unknown counties	0.00	0.00	0.15	1.66	0.10	1.47	0.22	0.40
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 8. Statewide summary of cottontail rabbit harvest statistics, 1967-97.

Year	Total Hunters	Total Harvest	Hunter-Days Afield	Cottontails Per Hunter-Da	Cottontails Per Hunter
1967	23,249	181,812	92,681	1.95	7.79
1968	26,889	225,450	93,126	2.42	8.38
1969	29,760	184,034	119,596	1.54	6.18
1970	24,486	195,248	103,725	1.86	7.97
1971	30,824	239,511	145,287	1.65	7.78
1972	22,835	155,102	105,941	1.46	6.79
1973	20,109	88,603	87,036	1.02	4.41
1974	22,737	86,506	85,499	1.01	3.80
1975	24,803	154,182	116,707	1.32	6.22
1976	28,239	235,952	126,737	1.86	8.39
1977	35,831	269,263	157,257	1.71	7.51
1978	35,590	401,071	163,019	2.46	11.27
1979	33,385	200,223	127,497	1.57	6.00
1980	25,156	127,652	87,051	1.47	5.07
1981	25,906	149,765	104,183	1.44	5.78
1982	26,714	156,696	105,644	1.48	5.87
1983	22,467	180,767	96,151	1.88	8.05
1984	18,616	69,186	67,643	1.02	3.72
1985	14,059	31,397	48,371	0.65	2.23
1986	13,992	40,636	48,694	0.83	2.90
1987	20,322	110,411	77,047	1.43	5.43
1988	24,076	150,386	97,190	1.55	6.25
1989	22,878	120,075	91,264	1.32	5.25
1990	23,070	127,389	93,515	1.36	5.52
1991	21,137	111,407	82,772	1.35	5.27
1992	20,509	117,454	83,154	1.41	5.73
1993	17,578	64,400	77,968	0.83	3.66
1994	12,709	47,322	53,175	0.89	3.72
1995	13,840	67,295	58,042	1.16	4.86
1996	14,470	82,803	63,943	1.29	5.72
1997	12,263	61,109	52,587	1.16	4.98
Totals (1967-97)	708,499	4,433,107	2,912,502	--	--
Averages (1967-96)	23,208	145,733	95,331	1.44	5.92

Table 9. Cottontail rabbit field bag check summary, 1997.

Region and County	All Hunts					Complete Hunts					
	Total Parties	Total Hunters	Total Hours	Total Rabbits	Rabbits/ 100 Hr	Complete Hunts	Total Hunters	Total Hours	Total Rabbits	Rabbits/ Hunter	Rabbits/ 100 Hr
Northern Region											
Box Elder	--	--	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Central Region											
Juab	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Southern Region	--	--	--	--	--	--	--	--	--	--	--
Beaver	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Northeastern Region	--	--	--	--	--	--	--	--	--	--	--
Daggett	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Southeastern Region	--	--	--	--	--	--	--	--	--	--	--
Carbon	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
STATE TOTALS	--	--	--	--	--	--	--	--	--	--	--

Table 10. Cottontail rabbit hunter success trend as determined by field bag check, 1992-97.

Region and County	1992		1993		1994		1995		1996		1997	
	Rabbits/ Hunter	Rabbits/ 100 Hr	Rabbits/ Hunter	Rabbits/ 100 Hr	Rabbits/ Hunter	Rabbits/ 100 Hr	Rabbits/ Hunter	Rabbits/ 100 Hr	Rabbits/ Hunter	Rabbits/ 100 Hr	Rabbits/ Hunter	Rabbits/ 100 Hr
Northern Region												
Box Elder	--	--	--	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
Central Region												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
Southern Region			--	--	--	--	--	--	--	--	--	--
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
Northeastern Region			--	--	--	--	--	--	--	--	--	--
Daggett	1.25	50	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	1.25	50	--	--	--	--	--	--	--	--	--	--
Southeastern Region			--	--	--	--	--	--	--	--	--	--
Carbon	--	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
STATE TOTALS	1.25	50	--	--	--	--	--	--	--	--	--	--

Figure 1. Statewide trends of snowshoe hare harvest statistics, 1975-97.

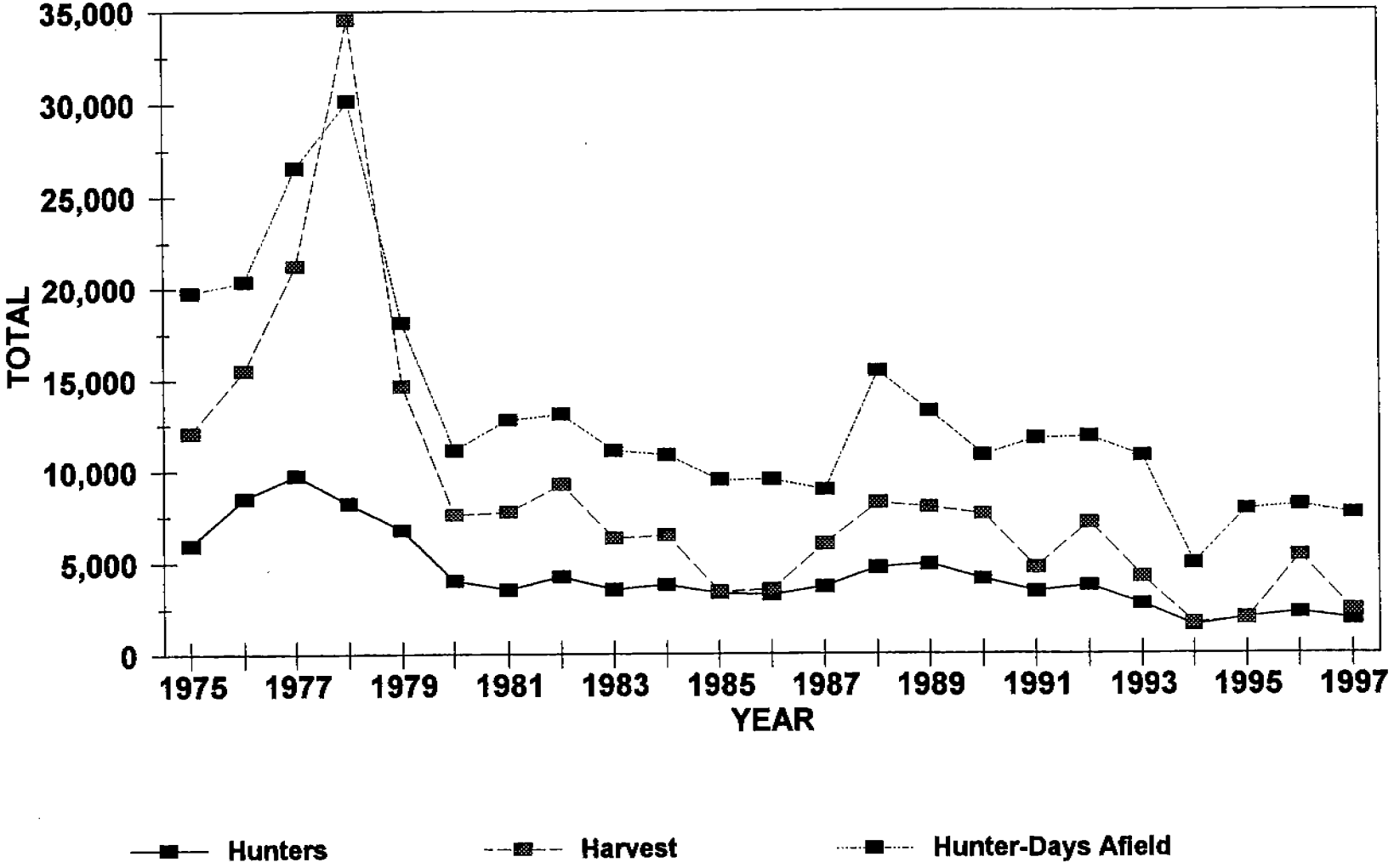
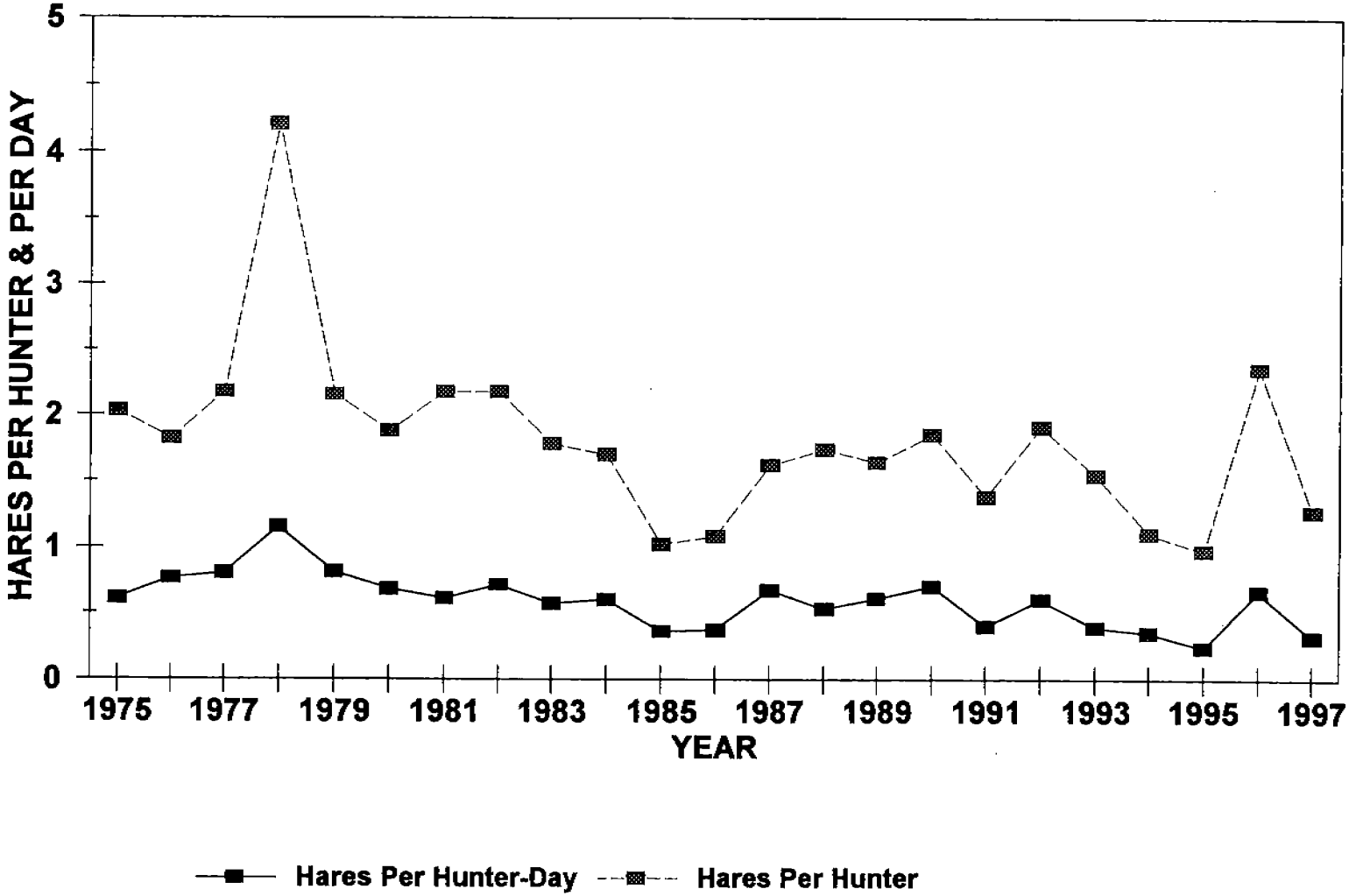


Figure 2. Statewide trends of snowshoe hare hunter success rates, 1975-97.



SNOWSHOE HARE

Harvest

Results of the 1997 hunter questionnaire are found in Table 11. Trends of snowshoe hares bagged per hunter-day, percent of harvest and percent of pressure (hunter-days) are found in Tables 12-14. Trend in statewide harvest statistics by year are shown in Table 15 and Figures 1 and 2. The 1997 season compared to 1996 and the previous 22-year average follow:

	1997	Percent change from 1996	Percent change from Average
Snowshoe hare hunters	1,912	-16	-57
Snowshoe hares harvested	2,431	-55	-73
Hunter-days afield	7,628	-6	-43
Snowshoes per hunter-day	0.32	-52	-47
Snowshoes per hunter	1.27	-46	-31

Results of the 1997 harvest questionnaire indicates a 55 percent decrease in the number of snowshoe hares harvested compared to 1996. Success was 73 percent below the long-term average.

Table 11. Summary of snowshoe hare hunter success and distribution of harvest and hunting pressure by region and county, 1997.

REGION AND COUNTY	SAMPLE SIZE*	HUNTER-DAYS AFIELD	SNOWSHOE BAGGED	SNOWSHOE HUNTER-DAY	% OF PRESSURE	% OF HARVEST
NORTHERN REGION						
BOX ELDER	9	540	457	0.85	7.08	18.81
CACHE	10	290	20	0.07	3.81	0.86
DAVIS	1	20	0	0.00	0.27	0.00
MORGAN	1	83	41	0.50	1.09	1.71
RICH	7	228	415	1.82	3.00	17.10
SUMMIT	4	249	41	0.17	3.27	1.71
WEBER	6	145	83	0.57	1.91	3.42
REGIONAL TOTALS	38	1,558	1,060	0.68	20.44	43.61
CENTRAL REGION						
JUAB	1	20	62	3.00	0.27	2.57
SALT LAKE	2	41	0	0.00	0.54	0.00
SANPETE	2	41	41	1.00	0.54	1.71
TOOELE	12	831	103	0.13	10.90	4.28
UTAH	12	1,371	145	0.11	17.98	5.99
WASATCH	3	228	62	0.27	3.00	2.57
REGIONAL TOTALS	32	2,535	415	0.16	33.24	17.10
SOUTHERN REGION						
BEAVER	1	83	540	6.50	1.09	22.23
GARFIELD	0	0	0	0.00	0.00	0.00
IRON	0	0	0	0.00	0.00	0.00
KANE	0	0	0	0.00	0.00	0.00
MILLARD	3	353	41	0.12	4.63	1.71
PIUTE	0	0	0	0.00	0.00	0.00
SEVIER	5	311	62	0.20	4.09	2.57
WASHINGTON	0	0	0	0.00	0.00	0.00
WAYNE	2	83	0	0.00	1.09	0.00
REGIONAL TOTALS	11	831	644	0.78	10.90	26.51
NORTHEASTERN REGION						
DAGGETT	3	353	20	0.06	4.63	0.86
DUCHESNE	5	394	62	0.16	5.18	2.57
UINTAH	4	665	83	0.13	8.72	3.42
REGIONAL TOTALS	12	1,413	166	0.12	18.53	6.84
SOUTHEASTERN REGION						
CARBON	6	852	83	0.10	11.17	3.42
EMERY	5	332	41	0.13	4.36	1.71
GRAND	0	0	0	0.00	0.00	0.00
SAN JUAN	1	103	20	0.20	1.36	0.86
REGIONAL TOTALS	12	1,288	145	0.11	16.89	5.99
UNKNOWN	0	0	0	0.00	0.00	0.00
STATE TOTALS	105	7,628	2,431	0.32	100.00	100.00

Total hunter trips from questionnaire returns.

Table 12. Summary of snowshoe hare bagged per hunter-day by region and county, 1990-97.

Region and County	Year							
	1990	1991	1992	1993	1994	1995	1996	1997
Northern Region								
Box Elder	0.54	0.38	0.52	0.45	0.82	0.14	0.21	0.85
Cache	0.56	0.30	0.26	0.42	1.30	0.11	0.09	0.07
Davis	0.00	0.03	0.00	0.00	0.00	0.60	0.75	0.00
Morgan	0.80	2.17	0.15	0.00	0.47	0.00	1.88	1.50
Rich	0.76	1.31	1.15	0.38	1.21	0.21	1.00	1.82
Summit	1.05	0.24	0.62	0.18	0.39	0.23	0.75	0.17
Weber	0.25	0.25	1.00	1.12	0.28	0.91	0.00	0.57
REGIONAL TOTALS	**0.70**	**0.49**	**0.54**	**0.48**	**0.77**	**0.38**	**0.38**	**0.68**
Central Region								
Juab	0.53	0.50	0.38	0.00	0.64	0.15	1.14	3.00
Salt Lake	0.00	0.22	0.08	0.00	2.00	0.00	2.00	0.00
Sanpete	1.08	0.78	0.43	0.67	1.02	0.50	0.63	1.00
Tooele	0.32	0.35	0.58	0.25	0.70	0.38	0.05	0.13
Utah	0.51	0.71	0.79	0.08	0.46	0.10	0.35	0.11
Wasatch	0.17	0.22	0.48	8.67	1.57	0.04	0.11	0.27
REGIONAL TOTALS	**0.55**	**0.45**	**0.55**	**0.44**	**0.67**	**0.21**	**0.35**	**0.16**
Southern Region								
Beaver	0.50	0.00	0.00	0.00	1.50	0.05	0.00	6.50
Garfield	0.67	1.00	0.00	0.00	1.04	0.00	0.00	0.00
Iron	0.00	0.00	0.67	0.00	1.05	0.00	0.00	0.00
Kane	0.00	0.00	0.20	0.00	0.91	0.00	0.00	0.00
Millard	0.00	0.00	0.15	0.32	0.69	0.00	0.00	0.12
Piute	0.43	0.00	1.50	0.00	0.33	0.00	3.21	0.00
Sevier	0.96	0.61	0.78	0.44	0.67	0.00	0.00	0.20
Washington	0.00	0.00	0.00	0.00	1.01	0.00	0.00	0.00
Wayne	0.39	0.44	1.25	0.25	1.06	0.00	0.00	0.00
REGIONAL TOTALS	**0.62**	**0.56**	**0.70**	**0.30**	**0.93**	**0.02**	**3.03**	**0.78**
Northeastern Region								
Daggett	0.50	0.14	1.00	0.43	1.52	0.00	3.00	0.06
Duchesne	1.33	0.18	0.23	0.22	1.43	0.12	0.35	0.16
Uintah	0.88	0.14	1.62	0.15	1.55	0.33	0.41	0.13
REGIONAL TOTALS	**1.17**	**0.17**	**0.79**	**0.23**	**1.51**	**0.24**	**0.44**	**0.12**
Southeastern Region								
Carbon	0.71	0.21	0.63	0.29	0.89	0.00	1.67	0.10
Emery	0.37	0.45	0.33	0.60	0.90	0.33	0.70	0.13
Grand	2.00	0.00	0.00	0.00	1.21	0.00	0.00	0.00
San Juan	0.00	0.00	1.00	0.00	0.97	0.00	0.00	0.20
REGIONAL TOTALS	**0.56**	**0.30**	**0.46**	**0.37**	**0.94**	**0.20**	**0.92**	**0.11**
Unknown counties	0.00	0.00	0.00	3.60	0.00	0.00	0.00	0.00
STATE TOTALS	0.70	0.40	0.60	0.39	0.35	0.24	0.66	0.32

Table 13. Percentage distribution of snowshoe hare harvest by region and county, 1990-97.

Region and County	Year							
	1990	1991	1992	1993	1994	1995	1996	1997
Northern Region								
Box Elder	6.62	14.43	10.76	9.55	35.73	5.05	6.49	18.81
Cache	4.78	2.49	4.93	1.09	0.00	2.02	0.87	0.86
Davis	0.37	0.00	0.00	0.33	0.00	3.03	1.30	0.00
Morgan	4.78	0.50	0.00	1.06	3.06	0.00	6.49	1.71
Rich	20.22	5.72	1.35	0.63	4.08	3.03	2.16	17.10
Summit	4.41	6.47	1.35	0.93	0.00	3.03	2.60	1.71
Weber	1.84	0.50	8.52	1.06	0.00	30.31	0.00	3.42
REGIONAL TOTALS	**43.02**	**30.10**	**26.91**	**14.64**	**42.88**	**46.47**	**19.91**	**43.61**
Central Region								
Juab	1.47	3.23	0.00	5.72	1.02	4.04	3.46	2.57
Salt Lake	0.74	0.25	0.00	0.13	0.00	0.00	1.73	0.00
Sanpete	11.40	2.49	1.79	3.57	10.21	15.15	2.16	1.71
Tooele	8.83	7.21	8.07	13.39	2.04	12.12	0.43	4.28
Utah	5.52	11.44	2.24	8.50	9.19	6.06	10.82	5.99
Wasatch	3.68	2.99	23.32	0.23	4.08	1.01	0.87	2.57
REGIONAL TOTALS	**31.62**	**27.61**	**35.43**	**31.54**	**26.54**	**38.39**	**19.48**	**17.10**
Southern Region								
Beaver	0.00	0.00	0.00	2.31	0.00	1.01	0.00	22.23
Garfield	1.10	0.00	0.00	0.86	1.02	0.00	0.00	0.00
Iron	0.00	0.50	0.00	2.02	0.00	0.00	0.00	0.00
Kane	0.00	0.25	0.00	1.45	0.00	0.00	0.00	0.00
Millard	0.00	1.24	4.48	4.86	0.00	0.00	0.00	1.71
Piute	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00
Sevier	10.30	5.22	3.14	2.98	5.10	0.00	45.89	2.57
Washington	0.00	0.00	0.00	5.49	1.02	0.00	0.00	0.00
Wayne	1.47	9.95	1.79	1.09	6.13	0.00	0.00	0.00
REGIONAL TOTALS	**12.87**	**17.91**	**9.42**	**21.36**	**13.27**	**1.01**	**45.89**	**26.51**
Northeastern Region								
Daggett	1.10	1.00	5.83	0.69	0.00	0.00	1.30	0.86
Duchesne	6.25	3.73	6.28	3.64	2.04	3.03	3.03	2.57
Uintah	1.84	16.92	4.93	6.64	4.08	10.10	5.20	3.42
REGIONAL TOTALS	**9.19**	**21.64**	**17.04**	**10.98**	**6.13**	**13.13**	**9.52**	**6.84**
Southeastern Region								
Carbon	1.47	1.24	1.79	10.28	11.23	0.00	2.16	3.42
Emery	1.84	1.24	1.35	4.13	0.00	1.01	3.03	1.71
Grand	0.00	0.00	0.00	1.92	0.00	0.00	0.00	0.00
San Juan	0.00	0.25	0.00	5.06	0.00	0.00	0.00	0.86
REGIONAL TOTALS	**3.31**	**2.74**	**3.14**	**21.39**	**11.23**	**1.01**	**5.20**	**5.99**
Unknown counties	0.00	0.00	8.07	0.10	0.00	0.00	0.00	0.00
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 14. Percentage distribution of snowshoe hare hunting pressure by region and county, 1990-97.

*Region and County	Year							
	1990	1991	1992	1993	1994	1995	1996	1997
Northern Region								
Box Elder	5.64	13.69	7.11	16.67	9.35	31.07	8.62	7.08
Cache	6.46	6.37	5.71	4.59	0.36	4.68	6.30	3.81
Davis	0.19	4.59	0.00	0.35	0.71	1.23	1.15	0.27
Morgan	0.95	0.89	1.95	0.53	3.21	0.25	2.29	1.09
Rich	12.93	6.22	3.00	1.41	2.50	3.45	1.43	3.00
Summit	7.41	7.41	6.31	3.00	2.14	3.20	2.29	3.27
Weber	0.76	2.96	0.30	3.00	0.36	8.13	0.86	1.91
REGIONAL TOTALS	**42.40**	**35.56**	**33.93**	**22.22**	**40.36**	**29.56**	**34.96**	**20.44**
Central Region								
Juab	3.61	1.19	5.11	0.18	2.86	6.40	2.01	0.27
Salt Lake	0.00	1.33	1.95	5.47	0.00	1.23	0.57	0.54
Sanpete	4.56	5.93	3.45	1.06	4.29	7.39	2.29	0.54
Tooele	7.03	10.22	7.51	12.52	5.36	7.88	6.30	10.90
Utah	6.65	3.11	8.71	11.29	9.64	14.53	20.34	17.98
Wasatch	1.14	6.67	3.75	1.06	3.21	6.40	5.44	3.00
REGIONAL TOTALS	**23.00**	**28.45**	**30.48**	**31.57**	**25.63**	**43.85**	**36.96**	**33.24**
Southern Region								
Beaver	0.38	0.30	0.00	0.00	0.00	5.42	0.00	1.09
Garfield	1.14	0.44	0.00	1.23	1.79	0.00	0.00	0.00
Iron	0.00	0.00	0.45	0.00	0.71	0.00	0.00	0.00
Kane	0.00	0.15	0.75	0.00	0.00	0.74	0.00	0.00
Millard	0.19	0.00	5.11	5.47	0.36	0.49	0.00	4.63
Piute	1.33	0.30	0.30	0.00	0.00	0.00	0.00	0.00
Sevier	5.13	6.82	4.05	2.82	4.29	3.70	9.46	4.09
Washington	0.00	0.00	0.00	0.00	3.57	0.00	0.00	0.00
Wayne	5.89	1.33	4.80	2.82	3.57	0.99	0.57	1.09
REGIONAL TOTALS	**14.07**	**9.33**	**15.47**	**12.35**	**14.29**	**11.33**	**10.03**	**10.90**
Northeastern Region								
Daggett	0.76	3.26	0.60	5.29	0.00	0.00	0.29	4.63
Duchesne	8.56	13.78	9.61	11.29	4.29	6.16	5.73	5.18
Uintah	3.04	5.19	6.31	13.05	2.50	7.39	8.31	8.72
REGIONAL TOTALS	**12.36**	**22.22**	**16.52**	**29.63**	**6.79**	**13.55**	**14.33**	**18.53**
Southeastern Region								
Carbon	2.66	2.81	1.20	2.47	11.79	0.00	0.86	11.17
Emery	5.13	1.63	2.25	0.88	1.43	0.74	2.87	4.36
Grand	0.38	0.00	0.00	0.00	0.00	0.49	0.00	0.00
San Juan	0.00	0.00	0.15	0.00	0.00	0.00	0.00	1.36
REGIONAL TOTALS	**8.17**	**4.44**	**3.60**	**3.35**	**13.21**	**1.23**	**3.72**	**16.89**
Unknown counties	0.00	0.00	0.00	0.88	0.00	0.49	0.00	0.00
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 15. Statewide summary of snowshoe hare harvest statistics, 1975-97.

Year	Total Hunters	Total Harvest	Hunter-Days Afiel	Hares Per Hunter-Day	Hares Per Hunter
1975	5,961	12,072	19,770	0.61	2.03
1976	8,502	15,500	20,367	0.76	1.82
1977	9,752	21,232	26,535	0.80	2.18
1978	8,205	34,535	30,155	1.15	4.21
1979	6,787	14,641	18,115	0.81	2.16
1980	4,048	7,603	11,140	0.68	1.88
1981	3,554	7,750	12,782	0.61	2.18
1982	4,245	9,257	13,073	0.71	2.18
1983	3,544	6,302	11,088	0.57	1.78
1984	3,796	6,455	10,840	0.60	1.70
1985	3,365	3,429	9,494	0.36	1.02
1986	3,277	3,544	9,541	0.37	1.08
1987	3,702	6,005	8,947	0.67	1.62
1988	4,725	8,231	15,444	0.53	1.74
1989	4,895	8,006	13,233	0.61	1.64
1990	4,095	7,593	10,825	0.70	1.85
1991	3,427	4,731	11,742	0.40	1.38
1992	3,732	7,144	11,836	0.60	1.91
1993	2,755	4,237	10,774	0.39	1.54
1994	1,565	1,722	4,922	0.35	1.10
1995	1,983	1,924	7,891	0.24	0.97
1996	2,276	5,365	8,106	0.66	2.36
1997	1,912	2,431	7,628	0.32	1.27
Totals (1975-97)	100,103	199,709	304,248	–	–
Averages (1975-96)	4,463	8,967	13,483	0.60	1.83

APPENDICES

APPENDIX A

WEATHER CONDITIONS

Weather information used in this report (Tables 1 & 2 and Figures 1 & 2) is from the office of the Utah State Climatologist and N.O.A.A. Climatological Data Periodical.

The 1996-97 winter weather was wetter and warmer than normal. Above average precipitation fell September through January. In November 1996 through January 1997 temperatures were above average. February precipitation and temperatures were below normal.

In the spring of 1997, March - July precipitation was above normal. Temperatures were above normal in March, May and June and below normal in April and July.

Table 1. Comparison of 1997 monthly average temperatures (F) to the normal for each weather division and statewi

Weather Division	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
No.1 Western													
Normal	26.0	32.5	39.6	47.3	56.5	66.0	74.3	72.1	62.0	50.1	37.6	27.4	49.3
1997	28.3	33.0	43.5	45.8	59.8	67.3	71.4	74.5	64.1	49.6	39.5	26.6	50.3
Departure (degrees)	2.3	0.5	3.9	-1.5	3.3	1.3	-2.9	2.4	2.1	-0.5	1.9	-0.8	1.0
No.2 Dixie													
Normal	38.8	44.1	49.2	56.6	65.7	75.6	81.7	79.4	71.9	60.9	48.0	39.5	59.3
1997	40.5	44.6	55.4	56.3	72.3	75.8	79.6	81.2	74.1	60.3	50.7	39.9	60.9
Departure (degrees)	1.7	0.5	6.2	-0.3	6.6	0.2	-2.1	1.8	2.2	-0.6	2.7	0.4	1.6
No.3 North Central													
Normal	25.8	31.3	39.3	47.7	56.9	66.2	74.4	72.3	62.4	50.9	38.3	27.8	49.5
1997	29.5	31.9	43.8	46.2	60.8	67.9	72.6	74.5	65.2	50.7	40.1	26.2	50.8
Departure (degrees)	3.7	0.6	4.5	-1.5	3.9	1.7	-1.8	2.2	2.8	-0.2	1.8	-1.6	1.3
No.4 South Central													
Normal	26.5	31.6	37.6	45.1	54.0	63.4	70.4	68.2	59.9	49.3	37.3	28.1	47.6
1997	28.1	30.1	41.9	42.8	57.1	63.3	68.1	67.7	61.0	47.9	38.6	27.2	47.8
Departure (degrees)	1.6	-1.5	4.3	-2.3	3.1	-0.1	-2.3	-0.5	1.1	-1.4	1.3	-0.9	0.2
No.5 Northern Mountains													
Normal	20.9	24.7	31.7	40.6	49.6	58.2	65.6	63.6	54.9	44.7	32.5	22.8	42.5
1997	23.1	22.8	35.2	38.7	52.8	60.1	64.2	65.7	57.8	44.8	33.1	22.0	43.4
Departure (degrees)	2.2	-1.9	3.5	-1.9	3.2	1.9	-1.4	2.1	2.9	0.1	0.6	-0.8	0.9
No.6 Uintah Basin													
Normal	16.7	24.0	36.3	46.8	56.2	65.3	72.2	69.8	60.2	48.3	34.0	20.5	45.8
1997	19.3	20.8	36.9	43.4	57.9	66.6	69.9	69.8	61.7	47.6	33.0	21.0	45.7
Departure (degrees)	2.6	-3.2	0.6	-3.4	1.7	1.3	-2.3	0.0	1.5	-0.7	-1.0	0.5	-0.1
No.7 Southeast													
Normal	26.9	34.2	41.9	50.5	60.0	70.1	76.7	74.2	65.2	53.4	40.2	29.5	51.9
1997	29.6	33.7	46.1	48.3	63.5	71.4	75.6	74.1	67.3	52.8	40.4	30.3	52.8
Departure (degrees)	2.7	-0.5	4.2	-2.2	3.5	1.3	-1.1	-0.1	2.1	-0.6	0.2	0.8	0.9
STATE AVERAGES													
Normal	25.9	31.8	39.4	47.8	57.0	66.4	73.6	71.4	62.4	51.1	38.3	27.9	49.4
1997	28.3	31.0	43.3	45.9	60.6	67.5	71.6	72.5	64.5	50.5	39.3	27.6	50.2
Departure (degrees)	2.4	-0.8	3.9	-1.9	3.6	1.1	-2.0	1.1	2.1	-0.6	1.1	-0.3	0.8

Figure 1. Temperature Departure
from Normal, (degrees F), 1997

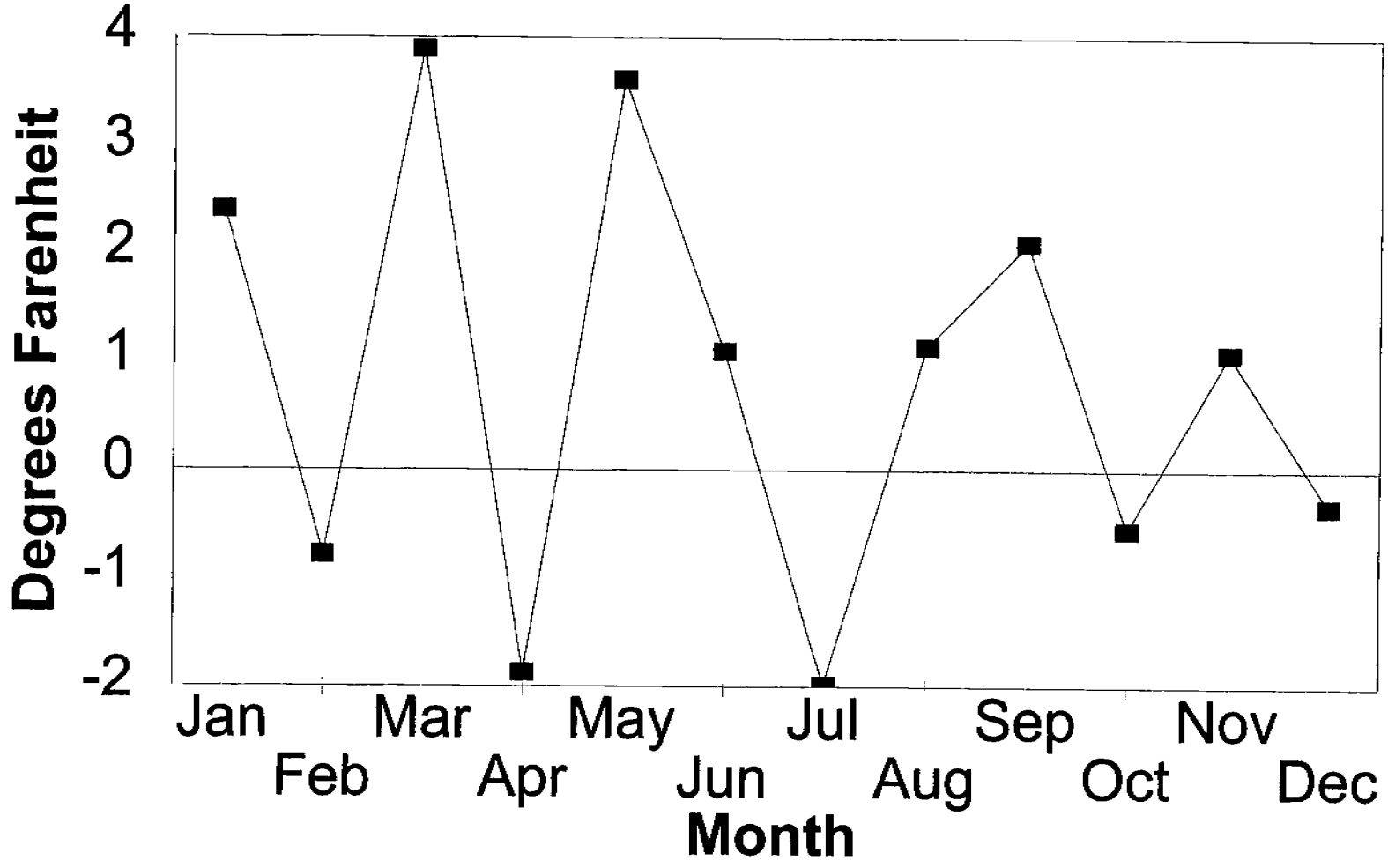
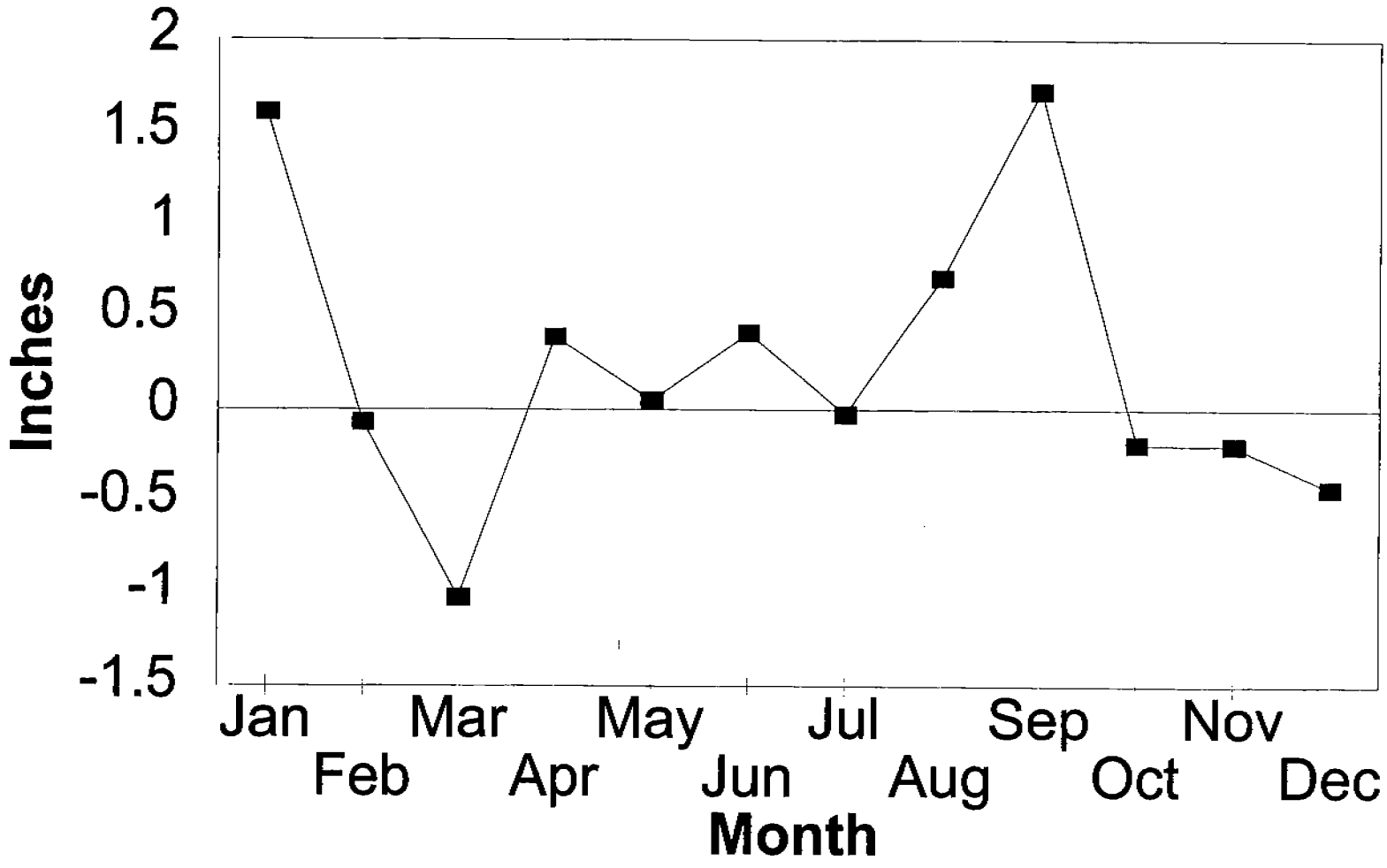


Table 2. Comparison of 1997 monthly average precipitation to the normal for each weather division and statewide.

Weather Division	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
No.1 Western													
Normal	0.53	0.58	0.85	0.89	0.98	0.71	0.73	0.83	0.79	0.81	0.68	0.58	8.96
1997	1.26	0.57	0.06	1.17	0.96	1.54	0.78	1.05	2.00	0.49	0.67	0.24	10.79
Departure (inches)	0.73	-0.01	-0.79	0.28	-0.02	0.83	0.05	0.22	1.21	-0.32	-0.01	-0.34	1.83
No.2 Dixie													
Normal	1.32	1.29	1.67	0.90	0.63	0.31	0.90	1.19	0.86	0.78	1.19	1.01	12.05
1997	3.52	0.68	0.10	0.52	0.47	0.16	0.57	1.75	3.40	0.42	1.05	0.52	13.16
Departure (inches)	2.20	-0.61	-1.57	-0.38	-0.16	-0.15	-0.33	0.56	2.54	-0.36	-0.14	-0.49	1.11
No.3 North Central													
Normal	1.34	1.39	1.77	1.94	1.84	1.21	0.85	0.99	1.43	1.64	1.53	1.49	17.42
1997	3.42	1.45	0.72	2.09	2.05	1.83	1.30	1.42	1.90	1.73	1.09	1.30	20.30
Departure (inches)	2.08	0.06	-1.05	0.15	0.21	0.62	0.45	0.43	0.47	0.09	-0.44	-0.19	2.88
No.4 South Central													
Normal	0.98	1.01	1.37	1.07	0.98	0.60	1.07	1.38	1.18	1.05	1.07	1.02	12.78
1997	2.62	1.12	0.18	1.64	1.01	1.16	0.81	2.50	3.83	0.78	0.92	0.58	17.15
Departure (inches)	1.64	0.11	-1.19	0.57	0.03	0.56	-0.26	1.12	2.65	-0.27	-0.15	-0.44	4.37
No.5 Northern Mountains													
Normal	1.83	1.78	1.93	1.95	1.68	1.19	1.04	1.19	1.52	1.69	1.83	1.92	19.55
1997	4.56	1.40	0.64	2.40	1.87	1.96	0.93	1.88	2.99	1.65	1.33	0.96	22.57
Departure (inches)	2.73	-0.38	-1.29	0.45	0.19	0.77	-0.11	0.69	1.47	-0.04	-0.50	-0.96	3.02
No.6 Uintah Basin													
Normal	0.48	0.46	0.63	0.73	0.86	0.71	0.71	0.73	0.88	0.96	0.56	0.60	8.31
1997	1.40	0.59	0.08	1.57	0.89	0.99	0.52	2.20	3.09	0.59	0.71	0.32	12.95
Departure (inches)	0.92	0.13	-0.55	0.84	0.03	0.28	-0.19	1.47	2.21	-0.37	0.15	-0.28	4.64
No.7 Southeast													
Normal	0.68	0.59	0.81	0.66	0.67	0.46	0.97	1.05	0.98	1.13	0.80	0.73	9.53
1997	1.70	0.80	0.11	1.50	0.74	0.46	1.18	1.59	2.53	1.08	0.51	0.40	12.60
Departure (inches)	1.02	0.21	-0.70	0.84	0.07	0.00	0.21	0.54	1.55	-0.05	-0.29	-0.33	3.07
STATE AVERAGES													
Normal	1.02	1.01	1.29	1.16	1.09	0.74	0.90	1.05	1.09	1.15	1.09	1.05	12.66
1997	2.64	0.94	0.27	1.56	1.14	1.16	0.87	1.77	2.82	0.96	0.90	0.62	15.65
Departure (inches)	1.62	-0.07	-1.02	0.39	0.05	0.42	-0.03	0.72	1.73	-0.19	-0.20	-0.43	2.99

Figure 2. Precipitation Departure from Normal, (inches), 1997



APPENDIX B

LICENSE SALES

Small game license sales by type and cost are listed in Table 1. The number of licenses sold for all types, decreased again in 1997.

The proportion of Utah's population hunting small game is declining (Table 2). In the early 1970s about 9 percent of Utah's population was hunting small game. In 1997, only 3.0 percent of Utah's population hunted small game.

Table 3 identifies revenue generated to the Utah Division of Wildlife Resources from small game license sales. Small game program budgets run about half the revenue generated, with the other half going to support services such as law enforcement, administration, accounting, and public services.

Table 1. Statewide small game license sales information, 1954-97.

	Adult Res. Small Game		Juv. Res. Small Game		Non Res. Small Game		Combination License	
Year	Issued	Cost	Issued	Cost	Issued	Cost	Issued	Cost
1954	12,990	$3.50	5,170	$2.00	561	$15.00	79,574	$6.00
1955	12,086	$3.50	5,369	$2.00	478	$15.00	79,960	$6.00
1956	12,102	$3.50	5,735	$2.00	524	$15.00	80,968	$6.00
1957	12,239	$3.50	6,192	$2.00	505	$15.00	81,271	$6.00
1958	14,290	$3.50	6,563	$2.00	696	$15.00	85,198	$6.00
1959	13,421	$3.50	5,966	$2.00	669	$15.00	90,069	$6.00
1960	12,020	$3.50	5,022	$2.00	576	$15.00	90,085	$6.00
1961	12,177	$3.50	6,108	$2.00	617	$15.00	88,180	$6.00
1962	12,953	$3.50	6,536	$2.00	607	$15.00	91,412	$6.00
1963	13,365	$3.50	6,319	$2.00	642	$15.00	94,768	$6.00
1964	13,073	$3.50	6,453	$2.00	681	$15.00	98,556	$6.00
1965	12,913	$3.50	6,755	$2.00	716	$15.00	100,410	$6.00
1966	13,854	$3.50	7,477	$2.00	725	$15.00	103,849	$6.00
1967	18,588	$4.50	12,851	$2.50	652	$20.00	86,218	$10.00
1968	20,647	$4.50	15,205	$2.50	703	$20.00	91,020	$10.00
1969	20,221	$4.50	15,567	$2.50	853	$20.00	96,117	$10.00
1970	19,564	$4.50	15,827	$2.50	1,009	$20.00	100,467	$10.00
1971	20,681	$4.50	16,044	$2.50	1,000	$20.00	102,284	$10.00
1972	19,796	$4.50	16,523	$2.50	1,075	$20.00	107,414	$10.00
1973	18,836	$4.50	16,522	$2.50	964	$20.00	155,436	$10.00
1974	17,434	$4.50	16,334	$2.50	974	$20.00	117,770	$10.00
1975	17,057	$4.50	15,869	$2.50	967	$20.00	115,362	$10.00
1976	33,078	$6.00	16,261	$3.00	1,141	$20.00	76,587	$18.00
1977	36,473	$6.00	15,795	$3.00	1,270	$20.00	74,600	$18.00
1978	37,082	$6.00	15,419	$3.00	1,449	$20.00	81,227	$18.00
1979	36,721	$6.00	14,200	$3.00	1,575	$20.00	84,450	$18.00
1980	30,189	$8.00	14,042	$4.00	1,330	$30.00	100,177	$23.00
1981	37,804	$8.00	13,874	$4.00	1,559	$30.00	83,486	$23.00
1982	36,850	$8.00	14,040	$4.00	1,637	$30.00	82,970	$23.00
1983	39,602	$8.00	13,814	$4.00	1,685	$30.00	73,529	$23.00
1984	36,070	$8.00	13,170	$4.00	1,633	$30.00	73,081	$23.00
1985	30,102	$12.00	12,987	$6.00	1,500	$40.00	82,137	$35.00
1986	29,202	$12.00	11,921	$6.00	1,274	$40.00	67,187	$35.00
1987	26,781	$12.00	11,228	$6.00	1,235	$40.00	66,715	$35.00
1988	25,733	$12.00	9,498	$6.00	1,428	$40.00	72,846	$35.00
1989	25,845	$12.00	5,769	$6.00	1,422	$40.00	74,274	$35.00
1990	24,527	$12.00	5,682	$6.00	1,279	$40.00	76,292	$35.00
1991	23,276	$12.00	5,626	$6.00	1,212	$40.00	79,165	$35.00
1992	21,852	$12.00	5,431	$6.00	1,195	$40.00	78,940	$35.00
1993	20,899	$12.00	4,887	$6.00	1,150	$40.00	78,030	$25.00
1994	25,792	$12.00	4,551	$6.00	1,223	$40.00	59,854	$25.00
1995	24,219	$12.00	4,403	$6.00	1,379	$40.00	66,607	$25.00
1996	23,908	$12.00	3,584	$6.00	1,503	$40.00	65,003	$25.00
1997	22,335	$12.00	3,546	$6.00	1,476	$40.00	62,936	$25.00

Table 2. Actual (1971-1997) proportion of Utah population hunting small game.

Year	Utah Population	Resident Small Game Hunters 1	Proportion Hunting Small Game
1971	1,101,000	93,399	8.5
1972	1,135,000	102,430	9.0
1973	1,169,000	106,868	9.1
1974	1,197,000	104,796	8.8
1975	1,234,000	100,702	8.2
1976	1,272,000	77,138	6.1
1977	1,316,000	78,652	6.0
1978	1,364,000	87,928	6.4
1979	1,416,000	93,016	6.6
1980	1,461,037	103,018	7.1
1981	1,524,830	96,104	6.3
1982	1,588,622	92,724	5.8
1983	1,652,415	86,396	5.2
1984	1,716,207	81,499	4.7
1985	1,780,000	88,498	5.0
1986a	1,665,000	87,442	5.3
1987a	1,678,000	79,485	4.7
1988	1,695,000	87,928	5.2
1989a	1,715,000	89,147	5.2
1990a	1,722,850	87,691	5.1
1991a	1,774,241	86,484	4.9
1992a	1,820,453	88,707	4.9
1993a	1,866,000	86,150	4.6
1994a	1,916,000	72,383	3.8
1995a	1,959,000	75,251	3.8
1996a	2,002,359	70,142	3.5
1997a	2,048,753	61,945	3.0

1 Resident Small Game Hunters = Number of Combination Licenses sold - number of Federal Duck Stamps sold, plus number of Resident Small Game Licenses sold, plus half of number of Juvenile Resident Small Game Licenses sol

a Utah Population Estimate Committee Report for July 1
(Governor's Office Planning and Budget)

Table 3. Small game license sales and income, 1971-97 (JSG=juvenile small game, RSG=adult resident small game, CMB=combination license, NRSG=nonresident small game).

	License Fees				Number of Licenses Sold				No. Federal Duck Stamps	Total Gross Revenues Attributed to Small Game ($)				
Year	JSG	RSG	CMB	NRSG	JSG	RSG	CMB	NRSG	Sold(3)	JSG(4)	RSG	CMB(2)	NRSG	TOTAL(1)
1971	2.50	4.50	10.00	20.00	16,044	20,681	102,284	1,000	37,588	20,055	93,064	200,557	20,000	313,676
1972	2.50	4.50	10.00	20.00	16,523	19,796	107,414	4,075	33,042	20,653	89,082	230,553	21,500	340,288
1973	2.50	4.50	10.00	20.00	16,522	18,836	115,436	964	35,685	20,652	84,762	247,290	19,280	352,704
1974	2.50	4.50	10.00	20.00	16,334	17,434	117,770	974	38,575	20,417	78,453	245,504	19,480	344,374
1975	2.50	4.50	10.00	20.00	15,869	17,057	115,362	967	39,652	19,836	76,756	234,701	19,340	330,993
1976	3.00	6.00	18.00	20.00	16,261	33,078	76,587	1,141	40,658	24,391	198,468	184,675	22,820	407,534
1977	3.00	6.00	18.00	20.00	15,795	36,473	74,600	1,270	40,319	23,692	218,838	176,204	25,400	418,734
1978	3.00	6.00	18.00	20.00	15,419	37,082	81,227	1,449	38,091	23,128	222,492	221,719	28,980	467,339
1979	3.00	6.00	18.00	20.00	14,200	36,721	84,450	1,575	35,255	21,300	220,326	252,862	31,500	494,488
1980	4.00	8.00	23.00	30.00	14,042	30,189	100,177	1,330	34,369	28,084	241,512	425,120	39,900	694,716
1981	4.00	8.00	23.00	30.00	13,874	37,804	83,486	1,559	32,123	27,748	302,432	331,805	46,770	661,985
1982	4.00	8.00	23.00	30.00	14,040	36,850	82,970	1,637	34,116	28,080	294,800	315,597	49,110	638,477
1983	4.00	8.00	23.00	30.00	13,814	39,602	73,529	1,686	33,642	25,620	305,249	257,670	50,134	588,539
1984	4.00	8.00	23.00	30.00	13,170	36,070	73,081	1,633	34,237	26,340	288,560	250,544	48,990	565,444
1985	6.00	12.00	35.00	40.00	12,987	30,102	82,137	1,500	30,235	38,961	361,224	484,246	60,000	884,431
1986	6.00	12.00	35.00	40.00	11,946	39,567	67,435	1,274	25,533	35,838	354,804	395,973	50,960	786,615
1987	6.00	12.00	35.00	40.00	11,228	26,781	66,715	1,235	19,625	33,684	321,372	439,350	49,400	794,406
1988	6.00	12.00	35.00	40.00	9,498	25,733	72,846	1,428	15,400	28,494	308,796	535,971	57,120	873,261
1989	6.00	12.00	35.00	40.00	5,769	25,845	74,274	1,422	13,857	17,307	310,140	563,691	56,880	891,138
1990	6.00	12.00	35.00	40.00	5,682	24,527	76,292	1,279	15,969	17,046	294,324	543,986	51,160	855,356
1991	6.00	12.00	35.00	40.00	5,626	23,276	79,165	1,212	18,770	16,878	279,312	563,485	48,480	859,675
1992	6.00	12.00	35.00	40.00	5,431	21,852	78,940	1,195	14,801	16,293	262,224	598,417	47,800	924,734
1993	6.00	12.00	25.00	40.00	4,887	20,899	78,030	1,150	15,223	14,661	250,788	585,989	46,000	897,438
1994	6.00	12.00	25.00	40.00	4,551	25,792	59,854	1,223	15,539	13,653	309,504	413,459	48,920	785,536
1995	6.00	12.00	25.00	40.00	4,403	24,219	66,607	1,379	19,428	13,209	290,628	440,180	55,160	799,177
1996	6.00	12.00	25.00	40.00	3,584	23,908	65,003	1,503	21,403	10,752	286,896	552,412	60,120	910,180
1997	6.00	12.00	25.00	40.00	3,674	22,980	63,513	1,563	25,099	11,022	275,760	486,705	62,520	836,007

1 Value does not include cougar, bear, limited entry and conservation wild turkey permits, habitat authorization and cooperative wildlife management unit fees or commercial hunting area licenses.
It does not include NRSG revenue--this is assumed to be primarily non-resident bear and cougar hunters.

2 Combination license values are based on the assumption that all waterfowl hunters purchased only combination licenses. They may fish and hunt big game but they do not hunt any other small game. Therefore, duck stamp sales are subtracted from combination license sales when projecting revenue generated. The proportion of the combination license fee attributed to small game equals the resident small game license fee divided by the resident fishing license fee, plus the resident small game license fee or $12.67 for 1997.

3 Total Federal duck stamps sold does not include those sold during the second quarter, April-June, because persons purchasing stamps during this quarter tend not to be hunters.

4 Half of the juvenile small game license sales were attributed to waterfowl hunters. Federal duck stamps are not required of juveniles less than 16 years of age.

APPENDIX C

Surveys

Regional and statewide summary of effort expended on upland game summer surveys, 1972-97.

Generally hours spent and miles driven on upland game surveys in Utah have declined dramatically since 1972. This is the result of competing uses of time for biologists and conservation officers. In addition, the restriction to a 40 hour work week by the Federal Fair Labor and Standards Act has further eroded survey effort.

Table 1. Regional and statewide summary of effort expended on upland game summer inventory, 1972-97.

Species		REGION											
		Northern		Central		Southern		Northeastern		Southeastern		STATE TOTALS	
		Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours
Pheasant													
	1972	469	–	963	–	752	–	535	–	297	–	3,016	–
	1973	322	–	691	–	740	–	488	–	230	–	2,471	–
	1974	479	–	819	–	848	–	508	–	317	–	2,971	–
	1975	490	–	846	–	993	–	515	–	393	–	3,237	–
	1976	476	–	822	–	773	–	434	–	400	–	2,905	–
	1977	484	–	731	–	790	–	554	–	343	–	2,902	–
	1978	479	–	642	–	654	–	512	–	588	–	2,875	–
	1979	438	–	642	–	721	–	562	–	209	–	2,572	–
	1980	358	–	672	–	750	–	546	–	270	–	2,596	–
	1981	459	–	525	–	801	–	535	–	330	–	2,650	–
	1982	437	–	639	–	583	–	477	–	332	–	2,468	–
	1983	260	–	442	–	780	–	426	–	330	–	2,238	–
	1984	444	–	359	–	473	–	463	–	166	–	1,905	–
	1985	383	–	303	–	650	–	492	–	180	–	2,008	–
	1986	455	–	617	–	669	–	520	–	270	–	2,531	–
	1987	432	–	518	–	574	–	546	–	90	–	2,160	–
	1988	334	–	436	–	604	–	469	–	90	–	1,933	–
	1989	499	–	427	–	45	–	403	–	90	–	1,464	–
	1990	518	–	509	–	97	–	240	–	90	–	1,454	–
	1991	485	–	496	–	120	–	375	–	90	–	1,566	–
	1992	413	–	455	–	0	–	657	–	90	–	1,615	–
	1993	249	–	547	–	80	–	340	–	90	–	1,306	–
	1994	180	–	468	–	–	–	297	–	–	–	945	–
	1995	150	–	454	–	–	–	285	–	–	–	889	–
	1996	141	–	471.6	–	–	–	261.8	–	–	–	874.4	–
	1997	60	–	419.8	–	–	–	279.5	–	–	–	759.3	–
Chukar													
	1972	712	91	1,423	131	950	37	1,012	69	984	58	5,081	386
	1973	1,063	119	1,494	167	72	10	705	48	702	68	4,036	412
	1974	125	31	1,591	107	564	43	440	30	1,115	67	3,835	278
	1975	188	30	808	85	892	41	908	88	786	55	3,582	299
	1976	875	75	964	110	465	32	727	67	687	66	3,718	350
	1977	405	50	1,198	120	601	37	600	71	429	44	3,233	322
	1978	359	28	459	42	135	14	315	23	536	52	1,804	159
	1979	546	54	793	76	415	22	293	23	267	14	2,314	189
	1980	283	68	1,668	124	235	12	0	0	53	10	2,239	214
	1981	330	56	591	49	147	11	245	21	260	32	2	169
	1982	473	34	571	56	475	35	260	37	101	9	1,880	171
	1983	17	15	190	17	20	2	488	44	103	7	818	85
	1984	654	81	303	32	–	–	–	–	118	16	1,075	129
	1985	236	73	453	36	–	–	–	–	174	12	863	121
	1986	394	65	432	37	–	–	135	14	–	–	961	116
	1987	813	119	398	36	0	3	305	32	175	23	1,691	213
	1988	379	35	457	49	60	7	–	–	180	14	1,076	105
	1989	105	17	505	30	11	8	–	–	144	12	765	67
	1990	–	21	1,190	77	–	–	85	8	235	20	1,510	126
	1991	0	0	311	18	0	0	0	0	225	11	536	29
	1992	178	27	270	12	0	0	0	0	216	24	664	63
	1993	–	–	–	–	–	–	–	–	300	22	300	22
	1994	–	–	–	–	–	–	–	–	70	6	70	6
	1995	–	–	–	–	–	–	–	–	–	–	–	–
	1996	54	16.5	–	–	–	–	–	–	–	–	16.5	–

1997 Aerial Survey in Central Region Only

Table 1 (continued)

Species		REGION											
		Northern		Central		Southern		Northeastern		Southeastern		STATE TOTALS	
		Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours
Sage Grouse													
	1972	1,628	323	1,187	143	751	144	2,125	170	1,280	141	6,971	921
	1973	3,146	353	927	147	1,171	116	1,952	238	496	41	7,692	895
	1974	2,026	321	1,551	115	1,661	193	2,964	248	887	124	9,309	1,001
	1975	1,254	249	963	123	714	226	1,868	236	1,098	131	5,897	965
	1976	1,965	281	426	121	379	183	1,881	227	1,222	161	5,873	973
	1977	1,966	305	1,370	133	465	157	1,995	215	928	116	6,724	926
	1978	1,408	267	541	124	490	152	1,616	226	879	97	4,934	866
	1979	1,051	150	700	132	563	143	1,719	203	279	20	4,312	648
	1980	1,003	218	806	150	518	94	1,471	184	278	60	4,076	706
	1981	619	194	691	99	285	57	771	163	377	39	2,743	552
	1982	1,669	169	762	92	454	83	862	116	--	--	3,747	460
	1983	610	158	720	164	284	51	992	125	108	10	2,714	508
	1984	1,411	278	283	82	289	54	530	95	151	17	2,664	526
	1985	2,164	169	481	74	410	45	666	84	106	9	3,827	381
	1986	1,024	197	281	39	169	43	948	94	146	14	2,568	387
	1987	1,939	205	172	37	286	50	1,114	124	195	18	3,706	434
	1988	2,092	177	678	108	316	66	690	91	--	--	3,775	442
	1989	465	108	360	56	46	19	557	61	167	24	1,595	268
	1990	175	73	444	89	90	42	244	30	70	7	1,023	241
	1991	554	210	270	21	30	21	60	21	86	13	1,000	286
	1992	--	126	96	44	265	50	193	18	204	23	758	261
	1993	--	82	36	32	--	--	65	3	130	23	231	140
	1994	58	16	155	18	--	--	135	10	65	8	413	51
	1995	117	98	--	--	--	--	157	13	--	--	274	111
	1996	41	46	--	--	475	90	664	113	--	--	1,180	203
	1997	162	38	--	--	180	146	946	111	--	--	1,288	281
Forest Grouse													
	1972	1,370	212	804	103	214	260	1,346	140	351	82	4,085	797
	1973	627	127	917	105	296	429	949	147	761	72	3,550	880
	1974	967	152	924	157	157	461	1,090	99	1,574	133	4,712	1,002
	1975	1,194	199	1,287	160	775	629	1,474	136	1,476	135	6,206	1,259
	1976	1,516	351	1,503	216	427	271	1,108	140	1,127	134	5,681	1,112
	1977	737	132	1,317	162	610	286	1,040	135	1,079	128	4,783	843
	1978	1,300	297	1,171	129	432	219	1,083	147	626	114	4,612	906
	1979	746	344	1,312	177	714	275	729	107	435	42	3,936	945
	1980	577	201	1,260	158	160	230	502	74	266	39	2,765	702
	1981	688	147	958	147	575	295	835	120	184	29	3,240	738
	1982	506	74	1,488	157	--	354	742	111	--	--	2,736	696
	1983	1,049	218	1,180	93	459	80	636	93	--	20	3,324	504
	1984	615	157	364	30	230	78	--	--	--	40	1,209	305
	1985	858	202	436	52	564	90	--	--	--	40	1,858	384
	1986	997	127	380	41	254	51	412	61	--	--	2,043	280
	1987	1,148	147	305	77	200	65	438	58	--	--	2,091	347
	1988	1,118	144	55	6	160	53	558	71	--	--	1,891	274
	1989	795	109	635	69	45	3	573	75	286	33	2,334	289
	1990	171	150	701	113	30	3	185	91			1,087	357
	1991	--	178	536	54	30	2	0	0	--	2	566	236
	1992	362	104	167	52	0	0	10	5	105	20	644	181
	1993	290	34	--	28	--	--	41	3	243	45	574	110
	1994	--	--	--	--	--	--	--	10	--	--	35	16
	1995	--	--	--	--	--	--	25	7	--	--	25	7
	1996	--	--	30	2	--	--	20	4	--	--	50	6
	1997	46	10	--	--	--	--	12	8.5	--	--	58	18.5

Table 1 (continued)

Species		REGION											
		Northern		Central		Southern		Northeastern		Southeastern		STATE TOTALS	
		Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours
Quail													
	1972	46	9	342	30	575	39	870	63	120	8	1,953	149
	1973	80	10	264	35	32	8	538	38	25	17	939	108
	1974	24	4	43	27	853	66	227	28	214	21	1,361	146
	1975	27	8	107	23	841	64	594	43	230	12	1,799	150
	1976	81	10	206	29	503	62	597	44	75	10	1,462	155
	1977	22	4	351	39	445	42	341	26	60	16	1,219	127
	1978	–	–	239	18	563	61	541	46	88	17	1,431	142
	1979	68	11	95	7	478	41	346	32	15	6	1,002	97
	1980	36	9	265	23	240	36	410	34	0	0	951	102
	1981	58	11	180	12	329	43	366	31	0	3	933	100
	1982	0	0	151	14	304	44	475	44	0	0	930	102
	1983	5	9	93	9	562	61	295	26	0	0	955	105
	1984	–	–	82	8	266	40	–	–	–	–	348	48
	1985	–	2	82	5	252	33	–	–	–	–	334	40
	1986	–	–	10	2	306	28	–	–	–	–	316	30
	1987	–	1	20	2	257	29	–	–	–	–	277	32
	1988	0	5	–	–	277	37	96	12	–	–	373	54
	1989	–	–	–	–	145	10	72	7	–	–	217	17
	1990	–	–	–	–	97	8	–	3	–	–	97	11
	1991	0	0	–	1	0	0	59	4	0	0	59	5
	1992	0	0	0	0	0	0	–	1	20	2	20	3
	1993	–	–	–	–	–	8	35	5	–	–	35	13
	1994	–	–	–	–	–	9	–	–	–	–	–	8
	1995	–	–	–	–	–	4	89	5	–	–	89	9
	1996	–	–	–	–	–	–	–	–	–	–	–	–
	1997	–	–	–	–	–	3.5	–	–	–	–	–	3.5
Hungarian Partridge													
	1972	1,255	126	–	–	–	–	–	–	–	–	21	126
	1973	1,643	156	12	4	–	–	–	–	–	–	1,655	160
	1974	1,035	176	14	2	–	–	–	–	–	–	1,049	178
	1975	344	64	0	0	–	–	–	–	–	–	344	64
	1976	940	83	113	21	–	–	–	–	–	–	1,053	104
	1977	1,145	156	125	5	–	–	–	–	–	–	1,270	161
	1978	1,065	90	197	17	–	–	–	–	–	–	1,262	107
	1979	440	27	37	3	–	–	–	–	–	–	477	30
	1980	250	55	50	6	–	–	–	–	–	–	300	61
	1981	270	23	65	3	–	–	–	–	–	–	335	26
	1982	324	39	–	–	–	–	–	–	–	–	324	39
	1983	0	60	–	–	–	–	–	–	–	–	0	60
	1984	815	221	–	–	–	–	–	–	–	–	815	221
	1985	114	38	–	–	–	–	–	–	–	–	114	38
	1986	213	44	–	–	–	–	–	–	–	–	213	44
	1987	300	40	–	–	–	–	–	–	–	–	300	40
	1988	316	30	10	1	–	–	–	–	–	–	326	31
	1989	0	0	–	–	–	–	–	–	–	–	0	0
	1990	393	30	–	–	–	–	–	–	–	–	393	30
	1991	–	41	0	0	–	–	–	–	–	–	0	41
	1992	–	83	40	2	–	–	–	–	–	–	40	85
	1993	–	42	–	–	–	–	–	0.2	–	–	–	42
	1994	–	8	–	–	–	–	–	–	–	–	–	8
	1995	–	12	–	–	–	–	–	–	–	–	–	12
	1996	–	–	–	–	–	–	–	–	–	–	–	–
	1997	–	–	–	–	–	–	–	–	–	–	–	–

Table 1 (continued)

Species		REGION											
		Northern		Central		Southern		Northeastern		Southeastern		STATE TOTALS	
		Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours
Wild Turkey													
	1972	--	--	--	--	73	62	--	--	290	54	363	116
	1973	--	--	--	--	143	11	--	--	--	--	143	11
	1974	--	--	--	--	0	0	--	--	799	64	799	64
	1975	--	--	--	--	215	18	--	--	792	100	1,007	118
	1976	--	--	--	--	125	16	--	--	362	45	487	61
	1977	--	--	--	--	193	29	--	--	421	58	614	87
	1978	--	--	--	--	--	--	--	--	204	55	204	55
	1979	--	--	--	--	--	--	--	--	190	14	190	14
	1980	--	--	--	--	--	--	--	--	--	--	--	--
	1981	--	--	--	--	--	--	--	--	--	--	--	--
	1982	--	--	--	--	--	--	--	--	--	--	--	--
	1983	--	--	--	--	--	--	--	--	--	--	--	--
	1984	--	--	--	--	--	--	--	--	--	--	--	--
	1985	--	--	--	--	--	--	--	--	--	--	--	--
	1986	--	--	--	--	--	--	--	--	41	15	41	15
	1987	--	--	--	--	--	--	--	--	--	--	--	--
	1988	--	--	--	--	--	--	--	--	--	--	--	--
	1989	--	--	--	--	--	--	--	--	--	--	--	--
	1990	--	--	--	--	--	--	--	--	--	--	--	--
	1991	--	--	155	68	--	--	--	--	150	15	305	83
	1992	--	--	100	16	--	--	--	--	35	6	135	22
	1993	--	--	--	--	--	--	57	3	117	9	174	12
	1994	--	--	--	--	--	--	--	--	--	--	--	--
	1995	--	--	--	--	--	--	--	--	--	--	--	--
	1996	--	--	433	84	--	--	--	--	--	--	433	84
	1997	--	--	65	16	--	--	--	--	--	--	65	16
Cottontail Rabbit													
	1972	510	--	279	--	939	--	360	--	555	--	2,643	--
	1973	337	--	242	--	879	--	270	--	270	--	1,998	--
	1974	270	--	180	--	1,040	--	370	--	542	--	2,402	--
	1975	330	--	231	--	1,237	--	340	--	712	--	2,850	--
	1976	510	--	260	--	1,382	--	300	--	636	--	3,088	--
	1977	360	--	262	--	1,329	--	400	--	556	--	2,907	--
	1978	382	--	264	--	1,038	--	300	--	761	--	2,745	--
	1979	270	--	270	--	903	--	400	--	580	--	2,423	--
	1980	90	--	265	--	655	--	359	--	540	--	1,909	--
	1981	270	--	270	--	903	--	400	--	580	--	2,423	--
	1982	240	--	240	--	722	--	298	--	602	--	2,102	--
	1983	90	--	90	--	822	--	340	--	590	--	1,932	--
	1984	--	--	--	--	177	--	356	--	340	--	196	--
	1985	--	--	--	--	175	--	631	--	400	--	450	--
	1986	240	--	148	--	534	--	358	--	330	--	1,610	--
	1987	150	--	120	--	669	--	373	--	240	--	1,552	--
	1988	--	--	--	--	129	--	604	--	379	--	360	--
	1989	90	--	66	--	90	--	266	--	360	--	872	--
	1990	150	--	62	--	97	--	210	--	360	--	879	--
	1991	90	--	33		--	--	105	--	330	--	558	--
	1992	60	--	143	--	90	--	204	--	360	--	857	--
	1993	--	--	183	--	--	--	207	--	360	--	750	--
	1994	--	--	--	--	--	--	148	--	--	--	148	--
	1995	--	--	242	--	--	--	203	--	--	--	445	--
	1996	--	--	278	--	--	--	220	--	--	--	498	--
	1997	--	--	270	--	--	--	251	--	--	--	521	--

APPENDIX D

Season dates, bag limits and areas open by upland game species, 1997.

SPECIES	SEASON DATES	AREAS OPEN	BAG LIMIT	POSSESSION LIMIT	FOOTNOTES
Pheasant	Nov 1-Nov 16, 1997	✦ Statewide, except closed areas. ✦ In Tooele County, the James Walter Fitzgerald WMA closes on November 16th. In Tooele County, the James Walter Fitzgerald WMA is closed to dog training, except dogs may be used to locate and retrieve upland game during open hunting seasons.	2	2	✦ Males only may be harvested ✦ Shooting begins at 8:00 a.m. on opening day (Nov. 1) ✦ **Only in certain counties are state and federal lands open to 30 days of pheasant hunting. Check the proclamation carefully!**
	Nov 1-Nov 7, 1997	✦ In all of Utah County, except the Powell Slough and Goshen Warm Springs wildlife management areas, the pheasant hunt closes on November 7.	2	2	
	Nov 1-Nov 30, 1997	✦ **CAUTION: Not all counties are open for 30 day pheasant hunting. Only the following areas are open:** In Carbon, Duchesne, Emery, Grand, Juab, Millard, San Juan, Sanpete, Sevier, Tooele, and Uintah counties, all state and federal land (including private land leased by the Division subject to restrictions and closures imposed by administering agencies). ✦In Box Elder County, the Box Elder County Cooperative Wildlife Management Unit as posted and marked. ✦ In Utah County, the Powell Slough and Goshen Warm Springs wildlife management areas as posted and marked.	2	2	
Mourning Dove	Sept 1-Sept 30, 1996	✦ Statewide, except closed areas.	10	2	
Band-tailed Pigeon	Sept 1-Sept 30, 1996	✦ Beaver, Garfield, Grand, Iron, Kane, Millard, Piute, San Juan, Sanpete, Sevier, Utah, Washington and Wayne counties.	5	2	✦ Band-tailed pigeon permit required. ✦ Permits are available at all Division offices at no charge.
Chukar Partridge	Sept 20-Nov 30, 1997	✦ Cache, Daggett, Davis, Iron, Millard, Morgan, Rich, Sanpete, Summit, Wasatch and Weber counties; ✦ Those parts of Beaver, Iron, Juab, Millard, Salt Lake and Utah counties east of I-15; ✦ That part of Box Elder County east of I-15; ✦ That part of Sevier County north of I-70.	5	2	✦ Antelope Island is closed to upland game hunting.
	Sept 20-Dec 31, 1997	✦ That part of Box Elder County east of the Locomotive Springs-Snowville-Stone, Idaho Road and west of I-15.	5	2	

	Sept 20 1997-Jan 31, 1998	✦ Carbon, Duchesne, Emery, Garfield, Grand, Kane, Piute, San Juan, Tooele, Uintah, Washington and Wayne counties; ✦ Those parts of Beaver, Iron, Juab, Millard, Salt Lake and Utah counties west of I-15; ✦ That part of Box Elder County west of the Locomotive Spring-Snowville-Stone, Idaho Road; ✦ That part of Sevier County south of I-70; ✦ In Box Elder County, the Box Elder County Cooperative Wildlife Management Unit as posted and marked.	5	2	
Sage Grouse	Sept 20-Sept 28, 1997	✦ Grand County; ✦ That part of Box Elder County west of the Locomotive Springs-Snowville-Stone, Idaho Road; ✦ All of Daggett County except the area beginning on the east shore of Flaming Gorge Reservoir and the Utah/Wyoming state line; then east on this state line to the Utah/Colorado state line; south on this state line to the Green River; northwest on the Green River and the east shore of Flaming Gorge Reservoir to the Utah/Wyoming state line. ✦ All of Duchesne County north and east of the Duchesne River; ✦ All of Uintah County Except the area beginning at US-40 and the Green River in Jensen; then east on this highway to the Utah/Colorado state line; south on this state line to the White River; west on this river to the Green River; northeast on this river to US-40.	1	2	
	Sept 20-Sept 26, 1997	✦ Rich County; ✦ Parker Mountain - beginning at the junction of Highway US-89 and I-70 near Siguard; south on US-89 to SR-24; south on this highway to SR-62; south on this highway to SR-22; south on this highway to Antimony; south on the John's Valley Road through Widtsoe to Bryce Junction and SR-12; east and north on this highway to SR-24; west on this highway to SR-72 at Loa; north on this highway to I-70; west on this highway to US-89.	1	2	
Forest Grouse (blue and ruffed)	Sept 20-Nov 30, 1997	✦ Statewide except closed areas.	4	2	✦ Limits singley or in aggregate.
Quail (California & Gambel's)	Nov 1-Nov 16, 1997	✦ Box Elder, Carbon, Davis, Grand, Juab, Kane, Millard, Piute, Salt Lake, San Juan, Sevier, Tooele, Utah and Weber counties; ✦ **Daggett County is closed.** ✦ **All of Emery County except the Desert Lake Waterfowl Management Area which is closed.**	5	2	✦ Shooting begins at 8:00 a.m. on opening day (Nov 1).
	Nov 1-Dec 31, 1997	✦ Duchesne, Uintah and Washington counties	5	2	

Hungarian Partridge	Sept 20-Nov 30, 1997	✦ Cache, Davis, Morgan, Rich, Summit and Weber counties; ✦ That part of Box Elder County east of I-15; ✦ That part of Juab County east of I-15.	5	2	
	Sept 20-Dec 31, 1997	✦ That part of Box Elder County east of the Locomotive Springs-Snowville-Stone, Idaho Road and west of I-15.	5	2	
	Sept 20, 1997-Jan 31, 1998	✦ Tooele County. ✦ That part of Box Elder County west of the Locomotive Springs-Snowville-Stone, Idaho Road; ✦ That part of Juab County west of I-15. ✦ In Box Elder County, the Box Elder County Cooperative Wildlife Management Unit as posted and marked.	5	2	
Sharp-tailed Grouse	✦ **The entire state is closed to hunting of sharp-tailed grouse.**				
White-tailed Ptarmigan	Sept 20-Oct 19, 1997	✦ Daggett, Duchesne, Summit and Uintah counties.	4	2	✦ Ptarmigan permit required. ✦ Permits are available at all Division offices at no charge.
Cottontail Rabbit	Sept 20, 1997-Feb 28, 1998	✦ Statewide, except closed areas.	10	2	
Snowshoe Hare	Sept 20, 1997-Feb 28, 1998	✦ Statewide, except closed areas.	5	2	
Jackrabbit (white-tailed & black-tailed)	✦ Jackrabbits are not protected in Utah. They are not under Wildlife Board authority and may be hunted without a license, year-round.				

1998 WILD TURKEY SEASON DATES, AREAS OPEN & SEASON LIMITS

RIO GRANDE

HUNT NAME	HUNT NUMBER	SEASON DATES	SEASON LIMIT	AREAS OPEN
BEAVER (early) **BEAVER (late)**	**101a** **101b**	Apr 11-Apr 24, 1998 Apr 25-May 17, 1998	One Male One Male	Boundary begins at the junction of I-70 and SR-89 to the Garfield-Piute county line; west along this county line to the Beaver-Iron county line; west along this county line to I-15; north on I-15 to I-70; east on I-70 to SR-89.
DUCHESNE COUNTY (early)* **DUCHESNE COUNTY (late)***	**102a** **102b**	Apr 11-Apr 24, 1998 Apr 25-May 17, 1998	One Male One Male	All of Duchesne County, except the Strawberry River drainage above Starvation Reservoir, which is closed.
WEST EMERY COUNTY*	**103**	Apr 11-May 17, 1998	One Male	All of Emery County west of US-6 and north of I-70.
FILLMORE	**104**	Apr 11-May 17, 1998	One Male	Boundary begins at the junction of I-15 and I-70 at Cover Fort; then north on I-15 to US-50 north and west on this highway to SR-125; east and north on this highway to SR-132 at Leamington; east along this highway to I-15 at Nephi; south on this highway to US-50 at Scipio; south and east on this highway to I-70 at Salina; south and west on this highway to I-15 at Cove Fort.
COLORADO RIVER (early)* **COLORADO RIVER (late)***	**105a** **105b**	Apr 11-Apr 24, 1998 Apr 25-May 17, 1998	One male One male	Grand County - one mile either side of the Colorado and Dolores rivers from the Colorado state line to Dewey bridge.
GREEN RIVER*	**106**	Apr 11-May 17, 1998	One Male	Emery and Grand counties - two miles either side of the Green River from the confluence of the Price River to Ten Mile Canyon.
MILFORD **THIS HUNTING UNIT IS CLOSED DUE TO SIGNIFICANT WILDFIRES IN SUMMER 1996**	**107**		One Male	Boundary begins at Milford; then north on SR-257 to Negro Mag Wash; east on Negro Mag Wash to Cunningham Wash; south on Cunningham Wash to Wildcat Creek; south on Wildcat Creek to Indian Creek; south on Indian Creek to SR-21; west and north on SR-21 to Milford.
MONROE MOUNTAIN	**108**	Apr 11-May 17, 1998	One Male	Piute and Sevier counties - boundary begins at Junction and US-89; north on US-89 to Sigurd; south on SR-24 to SR-62; south on SR-62 to the junction of SR-62 and SR-22; west on SR-62 to Junction.
MORGAN-SOUTH RICH*	**109**	Apr 18-May 17, 1998	One Male	Morgan, Rich, Summit and Weber counties - boundary begins at the junction of I-84 and I-80 near Echo; then northeasterly on I-80 to the Utah-Wyoming state line; north along this state line to SR-16; north on SR-16 to SR-39 near Woodruff; west on SR-39 to SR-167 (Trappers Loop Road); south on SR-167 to SR-30 at Mountain Green; west on SR-30 to I-84; east on I-84 to I-80.
OGDEN	**110**	Apr 18-May 17, 1998	One Male	Weber, Box Elder Cache, and Morgan counties - beginning at Hyrum; then east on SR-101 to the Ant Flat Road (at Hardware Ranch); south on this road to SR-39; west and south on SR-39 to SR-167 (the new Trappers Loop Road); south on this highway to I-84; west on I-84 to I-15; north on I-15 to exit 364 and US-91; east and north on US-91 to SR-101; east on this highway to Hyrum.
PINE VALLEY* (early) **PINE VALLEY* (late)**	**111a** **111b**	Apr 11-Apr 24, 1998 Apr 25-May 17, 1998	One Male One Male	Boundary begins at the junction of I-15 and SR-56; then west on SR-56 to SR-18; then south on SR-18 to I-15; then north on I-15 to SR-56.
SAN JUAN (early) **SAN JUAN (late)**	**112a** **112b**	Apr 25-May 5, 1998 May 9-May 31, 1998	One Male One Male	Boundary begins at Monticello; then east on US-666 to the Utah-Colorado state line; south on this line to the Navajo Indian Reservation boundary; west on this boundary to South Cottonwood creek; north along this creek and through Allen, Chippean, Deep and Mule canyons to the causeway; north from the causeway through Trough Canyon to North Cottonwood Creek; north on this creek to SR-211; east on this highway to US-191 south on this highway to Monticello.

UINTAH COUNTY (early)* UINTAH COUNTY (late)*	113a 113b	Apr 11-Apr 24, 1998 Apr 25-May 17, 1998	One Male One Male	All of Uintah County except that portion south of the White River and east of the Green River below the White River confluence.
UTAH COUNTY (NORTH) (early) UTAH COUNTY (NORTH) (late)	114a 114b	Apr 4-Apr 17, 1998 Apr 18-May 10, 1998	One Male One Male	That part of Utah County east of I-15 and north of US-6.
UTAH COUNTY (SOUTH)	115	Apr 25-May 10, 1998	One Male	That part of Utah County east of I-15 and south of US-6.
WASATCH COUNTY	116	Apr 25-May 10, 1998	One Male	All of Wasatch County
WEST PINE VALLEY	117	Apr 11-May 17, 1998	One Male	Iron and Washington counties - boundary begins at St. George and I-15; south on I-15 to the Arizona border; west on the Arizona border to the Nevada border; north on the Nevada border to SR-56; east on SR-56 to Beryl Junction and SR-18; south on SR-18 to St. George.

***HUNTS COMPRISED OF ALL OR LARGELY PRIVATE PROPERTY. BEFORE APPLYING FOR THE HUNT, HUNTERS SHOULD OBTAIN WRITTEN PERMISSION FROM THE LANDOWNER TO ACCESS PRIVATE PROPERTY.**

MERRIAM'S

HUNT NAME	HUNT NUMBER	SEASON DATES	SEASON LIMIT	AREAS OPEN
BOULDER MOUNTAIN (early)	201a 201b	Apr 25-May 5, 1998 May 9-May 31,1998	One Male One Male	Boundary begins at the junction of SR-62, SR-69 and SR-89 near Kingston; then south on SR-89 to the Pink Cliffs Road between Glendale and Cannonville; then east on the Pink Cliffs Road to SR-12; then east and northeast on SR-12 to the Burr Trail Road; then east on the Burr Trail Road to the Capitol Reef National Park boundary; then north along the park boundary to SR-24; then west on SR-24 to SR-62; then south on SR-62 to SR-89.
KOLOB*	202	Apr 25-May 31, 1998	One Male	Area includes everything within the following description except for Zion National Park land; boundary beings at Kannaraville; east on the Kannara Mountain road to the summit and the head of Crystal Creek; south on Crystal Creek to Deep Creek; south on Deep Creek to SR-9; west on SR-9 to SR-17; west on SR-17 to I-15; north on I-15 to the Kannarville exit; north on SR-91 to Kannaraville.
LASAL (early) LASAL (late)	203a 203b	Apr 25-May 5, 1998 May 9-May 31, 1998	One Male One Male	Boundary begins at the junction of SR-128 and US-191; south on this highway to SR-46; east on this highway to the Lisbon Valley Road; southeast on this road to the Island Mesa Road; east on this road to the Utah-Colorado state line; north on this state line to a point one mile south of the Dolores River; west on a line one mile south of the Dolores River to SR-128; southwest on SR-128 to US-191.
ZION (early) ZION (late)	204a 204b	Apr 25-May 5, 1998 May 9-May 31, 1998	One Male One Male	Boundary beings at Kannaraville; east on the Kannara Mountain Road to the summit and the head of Crystal Creek; then south on Crystal Creek to Deep Creek; south on Deep Creek to the Zion National Park boundary; east on the park boundary to SR-9; east on SR-9 to SR-89; north on SR-9 to SR-20; west on SR-20 to I-15; south on I-15 to Cedar City; south on SR-91 to Kannrarville.

***HUNTS COMPRISED OF ALL OR LARGELY PRIVATE PROPERTY. BEFORE APPLYING FOR THE HUNT, HUNTERS SHOULD OBTAIN WRITTEN PERMISSION FROM THE LANDOWNER TO ACCESS PRIVATE PROPERTY.**

APPENDIX E. Summary of upland game harvest questionnaire returns, 1962-97.

Year	Questionnaires Mailed	Total Returns	Percent	Useable Returns	Percent	Licensees Who Did Not Hunt
1962	10,068	4,122	40.9	3,433	34.1	22.0%
1963	11,058	5,062	45.8	4,325	39.1	21.0%
1964	10,718	4,840	45.2	4,180	39.0	23.0%
1965	11,917	6,232	52.3	--	0.0	34.0%
1966	13,131	5,734	43.7	5,734	43.7	34.6%
1967	12,012	5,764	48.0	5,764	48.0	25.1%
1968	14,068	6,138	43.6	6,138	43.6	25.6%
1969	15,036	6,429	42.8	6,429	42.8	28.0%
1970	14,730	6,639	45.1	6,639	45.1	38.8%
1971	15,149	--	43.2	--	0.0	--
1972	15,272	--	--	6,399	41.9	--
1973	17,572	--	--	7,999	45.5	--
1974	27,379	9,157	33.4	8,027	29.3	--
1975	26,657	10,880	40.8	9,132	34.3	--
1976	21,250	7,889	37.1	6,226	29.3	--
1977	20,984	9,329	44.5	8,099	38.6	--
1978	24,733	7,575	30.6	6,529	26.4	--
1979	27,616	10,498	38.0	9,274	33.6	26.4%
1980	27,952	9,857	35.3	8,496	30.4	33.1%
1981	13,925	7,941	57.0	6,367	45.7	31.4%
1982	22,609	10,167	45.0	8,734	38.6	27.0%
1983	23,430	10,324	44.1	9,497	40.5	28.7%
1984	12,026	6,455	53.7	6,324	52.6	31.1%
1985	10,772	5,904	54.8	5,843	54.2	35.2%
1986	11,103	5,329	48.0	5,256	47.3	34.2%
1987	10,022	4,294	42.8	4,272	42.6	30.1%
1988	15,350	6,650	43.3	6,527	42.5	35.6%
1989	12,894	5,135	39.8	5,105	39.6	36.7%
1990	12,236	5,264	43.0	5,175	42.3	39.1%
1991	15,054	6,419	42.6	6,212	41.3	42.7%
1992	16,472	6,207	37.7	5,977	36.3	45.0%
1993	16,534	6,293	38.1	5,442	32.9	42.6%
1994	15,526	5,433	35.0	5,131	33.0	45.1%
1995	14,777	4,951	33.5	4,866	32.9	41.7%
1996	14,088	4,090	29.0	4,028	28.6	36.2%
1997	13,689	4,488	32.8	4,338	31.7	40.0%